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In the

Supreme Court of the United States

October Term, 1978

No. 73, Original

STATE OF CALIFORNIA,

Plaintiff,

vs.

STATE OF NEVADA

Defendant.

REPORT OF SPECIAL MASTER

ROBERT VAN PELT,
Senior U.S. District Judge
Special Master

JOE CHRISTENSEN, INC., 1540 Adams Street, Lincoln, Nebraska 68521

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I. INTRODUCTION

This original action involves the determination of the boundary between the States of California and Nevada. At the north it begins at a point on the south boundary of the State of Oregon approximately where the 42nd parallel intersects the 120th meridian and runs south to the 39th parallel. All parties agree that this intersection is in Lake Tahoe.[1] The boundary then proceeds southeasterly in a straight line to where the 35th parallel intersects the Colorado River. This intersection is now an agreed point and is recognized by compact between the States of California, Nevada and Arizona.[2] Thus the meridian line, sometimes called the north and south line, and the oblique line together constitute the entire common boundary between the two states.

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1 In reviewing the early maps and other documents, the Court will observe that Lake Tahoe has been known in the past under various names.

It was first discovered by Capt. John Charles Fremont on February 14, 1844 and he named it Mountain Lake. He later changed the name to Lake Bonpland in honor of Aimé Bonpland, a French botanist. In 1853 the lake was named Lake Bigler in honor of California's third governor, who served from 1852-56. However, during the Civil War, Bigler supported the Confederacy and was an outspoken secessionist. A movement was started to change the name of the lake. The name Tahoe was used as early as 1862 and is derived from the Washoe Indian language. Various Washoe words have been thought to be the source of the name, such as taa-oo meaning big water, tah-oo meaning lake water or sheet of water, and tah-oo-ee meaning much water. See E. GUDDE, CALIFORNIA PLACE NAMES 328-9 (3D REV. ED. 1969); P. HANNA, THE DICTIONARY OF CALIFORNIA LAND NAMES 324 (2d ed. 1951). These books were not offered in evidence. They are referred to here only insofar as they pertain to the naming of the lake.

2 See Exhibits 185, 180/PP, and 184/JJ dealing with the California-Arizona compact and Exhibits 179 and 181/GG dealing with the Arizona-Nevada compact.

Jurisdiction is invoked under Article III, Section 2, clause 2 of the Constitution of the United States. Both parties admit this Court's original jurisdiction in this case. Your Special Master is of opinion, and reports, that this Court has jurisdiction.

Assemblyman Mike Cullen, a member of the California Legislature, requested leave to file a brief *amicus curiae*, which was granted by the Supreme Court. Later Mr. Cullen concluded that the Attorney General of California was sufficiently presenting his contentions and that it was unnecessary for him to file a brief.

Rubin, Miller & Eagan, a professional corporation of Beverly Hills, California, with the approval of the Attorney General of California dated November 25, 1978, and the approval of the Attorney General of Nevada dated November 29, 1978, was permitted by your Special Master to file an *amicus curiae* brief on behalf of the California Land Title Association. Messrs. Rubin and Eagan attended the hearing in January, 1979. Thereafter, on June 25, 1979, their *amicus curiae* brief was filed.

II. THE PLEADINGS

On April 22, 1977, the State of California filed *in* this Court its Motion for Leave to File Complaint and Complaint, to which a response was made by the State of Nevada on May 20. On June 29, 1977, this Court granted leave to file bill of complaint and appointed the undersigned Special Master. The oath of the Special Master was filed July 11. An Answer to the Complaint was filed by Nevada on August 26, 1977.

On August 22 and 23, 1977, a preliminary conference was held at Reno, Nevada, attended by the Special Master and by representatives of the Attorney General of each state. A second conference was held on November 1 and 2, 1978 at Sacramento, California, attended by representatives of the Attorney General of each state, by Messrs. Rubin and Eagan, above mentioned, and by Mr. Cullen. At this conference the trial was set for January 3, 1979.

The first set of interrogatories was propounded in December, 1977. Thereafter other interrogatories were propounded and requests for admission filed by each party and depositions were taken until shortly before the hearing of January, 1979.

In 1978, after Nevada asked leave to file an Amended Answer and Counterclaim, California asked leave to file an Amended Complaint. These matters, and the request of Cullen to file an *amicus curiae* brief, were referred to the Special Master. The report thereon recommending allowance of the proposed filings was adopted in July, 1978 and the motions were granted. Thereafter, the Complaint was amended by California and an Answer to the Amended Complaint and Counter-

claim was filed by Nevada. California filed a Reply to Counterclaim. The originals of all these pleadings are on file with the Clerk of the United States Supreme Court. Your Special Master concludes that it would unduly prolong this report, and would not serve any relevant purpose, to set forth the issues made in the original complaint and answer and hereafter outlines only the issues contained in the amended pleadings.

Plaintiff sets forth the boundaries of each state as described in their respective constitutions and makes reference to armed conflict between plaintiff and the Territory of Nevada in 1863; plaintiff alleges the establishment by survey of the "Houghton-Ives" line and its adoption by the California Legislature in 1864 and by the Nevada Legislature in 1865 and claims that the line was observed by California from 1864 to 1872 and by Nevada from 1865 to 1872. California next alleges the making of the Allexey W. Von Schmidt survey, which hereafter will be referred to as the "Von Schmidt" line. California alleges that since 1872 in the provision of governmental services, assessments and taxing practices and in the exercise of civil and criminal jurisdiction both states have recognized and observed this line, and by acquiescence it constitutes the lawful boundary between the states.

Plaintiff prays that the Court adjudge the "Von Schmidt" line between the 39th and 42nd parallels to be the eastern boundary of California; that it decree that Nevada has no right, title or interest to lands to the west of the "Von Schmidt" line and perpetually enjoin Nevada's assertion of any right, title or interest to such land and its interference with California's possession and, in the alternative,

that a resurvey be had to determine the true location of the meridian of one hundred twenty degrees of longitude west from Greenwich between the thirty-ninth and forth-second parallels of north latitude, for costs, and for such other and further relief as may be proper.

Nevada by its answer and counterclaim makes certain admissions which will be discussed hereafter in the report and sets forth Nevada's boundaries as described in the act of admission to the Union. It is to be observed that the Nevada Constitution, instead of referring to the one hundred twentieth degree of longitude west from Greenwich, as used in the California Constitution, refers to the 43rd degree of longitude west from Washington.[3]

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3 On September 28, 1850, Congress passed an act directing that:

> [H]ereafter the meridian of the observatory at Washington shall be adopted and used as the American meridian for all astronomical purposes, and that the meridian of Greenwich shall be adopted for all nautical purposes.

Exhibits 186 and K. According to an article in a U. S. Coast and Geodetic Survey publication, Exhibit 200 at 58, representatives of 26 countries met in Washington in 1884 to recognize a common meridian, and the meridian so adopted was the Greenwich meridian. Congress in 1911 repealed the act designating the American meridian. Exhibit 201.

There are many indications that the Greenwich and American meridians were for a time thought to be identical. For example, J. Wells Kelly's *First Directory of Nevada Territory* (1862) begins with a historical sketch of Nevada territory, stating:

> The Territory of Nevada was created by Congress from the western portion of Utah, by an Act approved March second, eighteen hundred and sixty-one. It is bounded by the thirty-seventh and forty-second degrees of north latitude, and by the thirty-ninth and forty-third degrees of longitude west from Washington; or, adopting the more usual mode of computing longitude, by the one hundred and sixteenth and one hundred and twentieth meridians west from Greenwich.

In Count I of its counterclaim Nevada urges adoption of the "Houghton-B. Ives" line,[4] and claims that the action of Von Schmidt in physically moving Nevada's boundary without its prior and express consent is unconstitutional. Nevada presents an alternative claim in Count II of its counterclaim for the establishment of the boundary from "Major's Corner" to the Colorado River,

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Exhibit 191. DeGroot's map of Nevada Territory published in 1863 shows the two meridians as being identical, and the reports of the Nevada Surveyor General from 1865 through 1886 indicate the Greenwich and American meridians are identical. Exhibits 189, 190 and 194 through 198.

However, it later was discovered that the Washington observatory was not exactly on the 77th degree west of Greenwich, but 77° 03′ 02″.3 west of Greenwich. Exhibit 200. As stated in Francis Landrum's article in the Oregon Historical Quarterly, Exhibit PPPP, at 8-9:

> The minutes and seconds of arc—03′ 02″.3—have become an important quantity because this is an increment which prevents a congruency between integral degrees of longitude called out with the meridians of Greenwich and Washington as bases. Any legal description of boundaries which attempts to coincide the two meridians with an integral 77° difference will display an overlap of 03′ 02.3″ [*sic*] of arc—nearly 2.6 miles in latitude 42°—perhaps not much as states are concerned, but quite a large amount when translated into privately held real estate.

For further detail on other Washington meridians, see Exhibit 200. It is Nevada's contention that the two meridians were never intended to be identical. The Constitution of Nevada, as set forth in paragraph 3 of Nevada's Answer to Amended Complaint, and as shown by other exhibits, reads:

> . . .thence in a North Westerly direction along said Eastern boundary line of the State of California to the forty third degree of Longitude West from Washington; Thence North along said forty third degree of West Longitude, and said Eastern boundary line of the State of California to the forty second degree of North Latitude. . .

Your Special Master concludes that in the establishment of Nevada's boundary it was believed that the 43rd meridian west from Washington and the 120th meridian west from Greenwich were the same.

[4] Your Special Master concludes that this line is the same as the Houghton-Ives line mentioned by California.

and presents another alternative claim in Count III of its counterclaim for the Von Schmidt boundary in its entirety and presents still another alternative claim in Count IV of its counterclaim for a new survey of the 43rd degree of longitude west from Washington.

Nevada's prayer is in the alternative (1) for the establishment of the "Houghton-B. Ives" line, (2) for the establishment of a line from "Major's Corner", (3) for the establishment of the "Von Schmidt" line in its entirety, (4) for recognition of the present boundary between the two states as the legal boundary by acquiescence; and (5) if all of the above claims are denied, that a new survey be ordered of the 43rd meridian west from Washington and of the oblique line; and prays for costs and for such other and further relief as to the Court may be proper.

California's reply is mainly a denial. Its first affirmative defense alleges that the line set by the U.S. Coast and Geodetic Survey in 1893-1900 establishing the oblique boundary between California and Nevada has been acquiesced in by both states and has been recognized by the United States since 1900. For the second affirmative defense California claims laches on the part of Nevada barring its counterclaim and in effect asks that the "Von Schmidt" line be determined as the boundary between the 39th and 42nd parallels and that the oblique line as marked by the U.S. Coast and Geodetic Survey be determined to be the boundary from the 39th to the 35th parallel. California asks that it be adjudged that Nevada has no right, title or interest in any lands west of the "Von Schmidt" meridian line or west of the U.S. Coast and Geodetic Survey oblique line and enjoining

Nevada from asserting any right or interest therein or interfering with the possession of California, and as its final alternative asks that a new survey be ordered. It repeats other parts of the prayer of the amended complaint, including the prayer for such other relief as may be proper.

The pleadings have been set forth in this detail in order to fully present the parties' contentions and the background of this litigation.

There are certain admissions in the pleadings which bear upon the issues discussed in this report. Nevada, by its Answer to Amended Complaint and Counterclaim, hereinafter referred to as Filing 12, has admitted the following:

1. California's admission into the Union and its boundary, as approved by the Congress and contained in its 1849 Constitution insofar as it relates to the one hundred twentieth meridian of longitude west from Greenwich between the thirty-ninth and forty-second degrees north latitude.
2. The admission to the Union of the State of Nevada and the approval of the Nevada Constitution which provides in part that the western boundary of Nevada shall be the eastern boundary of California and then provides for such territory lying west of this boundary line which California may relinquish to the Territory or State of Nevada, shall constitute a part of the State.
3. The armed conflict in 1863 which arose from a boundary dispute, and which resulted in the joint survey conducted by California Surveyor-General J.S. Houghton and the Commissioner for the Territory of Nevada, Butler

Ives, and the survey and establishment of the line referred to as the "Houghton-Ives" line.

4. California's observance of the "Houghton-Ives" line between 1864 and 1872.

5. Nevada's observance of the "Houghton-Ives" line between 1865 and 1872.

6. That in 1872 the U.S. Government through its General Land Office contracted with Allexey Von Schmidt to survey, post, and monument the one hundred twentieth meridian between the forty-second and thirty-ninth degrees of north latitude; that the "Von Schmidt" line was surveyed, posted and monumented and that it varies in location from the "Houghton-Ives" line. It is also admitted that since 1873 both states have exercised and continue to exercise political jurisdiction and sovereignty up to the "Von Schmidt" line as presently marked on the ground, but Nevada denies that it constitutes the lawful boundary between the states by acquiescence.

7. That California has exercised jurisdiction to the "Von Schmidt" line between the forty-second and thirty-ninth parallels of north latitude as currently marked on the ground since 1873. Nevada denies it has acquiesced in California's exercise of sovereignty or jurisdiction.

8. That the propriety of the "Von Schmidt" line has been drawn into question from time to time by various governmental reports, but that neither Nevada nor California have requested a resurvey of the north-south "Von Schmidt" line.

California, by its Reply to Counterclaim, hereinafter referred to as filing 13, has admitted the following:

1. That a line was jointly surveyed between the 42nd and 39th parallels of north latitude by Houghton-Ives and that the resulting line was recognized by statute in both states including reenactment as California Government Code Section 160 in 1943 Cal. Stats. 1943, Chap. 134, p. 896.
2. Congressional recognition of a compact between Arizona and Nevada, and Arizona and California, establishing the point of intersection of the 35th degree of north latitude with the Colorado River.
3. That there was a survey conducted by Allexey Von Schmidt in 1872 of the boundary between the 42nd and 39th parallels of north latitude.
4. That Daniel G. Major set a point purporting to be the northeast corner of California and monumented said point in 1868 and that the monument set by Major remains standing intact.
5. That Von Schmidt surveyed both the meridian and the oblique boundary lines, and admits that the United States government at the request of California conducted a new survey of the oblique boundary line during the period of 1893-99.

In addition to the pleadings and other filings previously mentioned, all of which were submitted prior to the hearing of this case at Reno in January of 1979, there was filed by California on May 11, 1979, a Motion to File Second Amended Complaint

and to Bifurcate Issues. This Motion was filed at the same time that California filed its Opening Brief.

California's Motion contains a general statement of the problems to be encountered regardless of which of the many lines proposed is ultimately determined to be the legal boundary between California and Nevada.

> "Research and discovery in the course of this proceeding has led to the conclusion that regardless of where California's eastern boundary is eventually placed, serious questions will remain as to the validity of thousands of acres of state school lands and internal improvement grants granted by the United States to California and Nevada. If, as some past decisions of this Court and the interpretation of the Department of the Interior suggest, that agency unlawfully confirmed or clear-listed large parcels of land to states not entitled to them, its actions—and patents subsequently issued to innocent purchasers—may be invalid. The United States may, therefore, have an interest in lands heretofore assumed to be in the ownership of California, Nevada, or their successors in interest."

California alleges:

1. That a determination of ownership interests between California, Nevada, and the United States is essential to a final and equitable conclusion of this litigation; and

2. That the Court should make an order bifurcating the issues of validity of California's and Nevada's selections of school lands pending a determination of relocation of the boundary.

In support of their first contention, California alleges that prior to May 1, 1873, Nevada selected 2,138 acres from Lake Tahoe north that were within the State of California under the currently

existing Von Schmidt line. California further alleges that after the acceptance of the Von Schmidt line, the General Land Office continued to ratify and approve selections by the State of Nevada within California as delineated by the Von Schmidt line in the amount of approximately 1,484.60 acres. California alleges similar research findings with respect to Nevada's selection of lands in the area of the oblique line. California further alleges that holdings of this Court and the Department of Interior indicate that selections of public lands not made within the proper state are invalid and remain in the public domain, and that in order to fully resolve these issues, the United States should be made a party defendant.

California asks this Court in its Motion for an order (1) granting permission to file a second amended complaint and (2) bifurcating the issues of validity of federal approval and grants and retaining jurisdiction to determine such matters in subsequent proceedings.

Nevada filed a response to the Motion on May 15, 1979. In general, this response alleges:

1. That the United States is not an indispensable party;
2. That this Court should validate private titles as quickly as possible, and that to its knowledge there is no parcel of land which California and Nevada have each patented to different parties, and that the United States is not an indispensable party for this purpose; and
3. That the question of the status and title of public lands not patented to private parties

should be bifurcated. The concluding paragraph of this section of the response states:

> Nevada believes that California's primary concern is that the matter of the status and title of the public lands selections by either State may go unnoticed, or not be addressed by the Supreme Court when it decrees the final boundary. And the Court may decline to do so for the reasons noted, supra, p. 2. Nevada submits that California's concern could be alleviated by the Special Master including in his report of findings and recommenations [*sic*] to the Court, a recommendation that the Court retain jurisdiction to address the matter of title, invite the United States to intervene and refer the question of title back to the Special Master.

After receiving these filings, and a letter from California dated May 14, 1979, which detailed California's opposition to certain of Nevada's arguments and allegations in its response, your Special Master sent the parties a letter which in substance stated:

> While there are points of disagreement between you, I believe you are in agreement that I should proceed when the case is finally submitted to make a recommendation as to the boundary and following the Supreme Court's determination of that issue we can then take up any questions remaining unsettled.

Your Special Master will include hereafter certain recommendations with regard to the matters raised in the motion for bifurcation.

III. ISSUES

There are basically two issues before the Court, the resolution of which will establish one continuous boundary between the two states.

1. What constitutes the lawful boundary between California and Nevada beginning where the 120th meridian of longitude west from Greenwich or where the 43rd meridian of longitude west from Washington intersects the 42nd parallel of north latitude and running south on said meridian to the 39th degree of north latitude, which terminus point falls in Lake Tahoe. This line is frequently called the meridian line or north-south line; and

2. What constitutes the lawful boundary between California and Nevada beginning at the intersection of either the 120th meridian or the 43rd meridian as determined under issue (1) with the 39th degree of north latitude and running southeast on a straight line to the point where the 35th degree of north latitude intersects with the Colorado River. This line is frequently called the oblique line.

Several lines are suggested by the parties. For the meridian line, these are:

1. The line surveyed by Houghton-Ives in 1863;
2. The line surveyed by Von Schmidt in 1872;
3. A line to be run due south from Major's Corner as established by him in 1868;
4. A line to be run on the 43rd degree of longitude west from Washington as provided in Nevada's constitution;

5. A line to be run on the 120th degree of longitude west from Greenwich, as provided in California's constitution; or
6. A line resulting from a new survey using modern technology and methods and more accurately locating whatever boundary line is established by this Court.

The lines suggested as the oblique line, each beginning at a point in Lake Tahoe and terminating in the Colorado River, as above described, are:

1. The line partially surveyed by Houghton-Ives in 1863, making provisions to extend that line southeasterly to the Colorado River;
2. The line surveyed by Von Schmidt in 1873;
3. The line surveyed by the United States Coast and Geodetic Survey between 1893-1899;
4. A line to be established beginning at the intersection in Lake Tahoe of the line extended due south from Major's Corner to the 39th parallel and then running southeasterly in a straight line to the Colorado River;
5. A line to be run southeasterly from the intersection of the 43rd degree of longitude west from Washington and 39th degree of north latitude to the Colorado River; and
6. A line resulting from a new survey using modern technology and methods and more accurately locating the oblique boundary line as established by this Court.

When the boundary is determined there will remain the issue of ownership and title to land which is raised by California's motion to file a second amended complaint and bifurcate issues filed since the January hearing.

IV. SURVEYS

A. Surveys of the California-Nevada Border[5]

California's eastern boundary became fixed by its Constitution of 1849 which described the boundary as:

> Commencing at the point of intersection of 42d degree of north latitude with the 120th degree of longitude west from Greenwich, and running south on the line of said 120th degree of west longitude until it intersects the 39th degree of north latitude; thence running in a straight line in a southeasterly direction to the river Colorado, at a point where it intersects the 35th degree of north latitude; . . .

Exhibit 5. When California was admitted to the Union on September 9, 1850, Congress approved the constitution without further reference to boundaries. On the same date that California was admitted, a territorial government was established in Utah, and the western boundary of Utah was fixed by Congress as being the eastern boundary of California. It was not until 1861 that the territory of Nevada was created out of Utah. Despite a suggestion from Congress that the boundary of Nevada should include the territory west to the summit of the Sierra Nevada mountains, provided California assented, California did not assent to

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5 Prior to discussing the actual surveys of the California-Nevada boundary, your Special Master should report that there is considerable evidence on methods of surveying, particularly from Francis S. Landrum, expert witness for Nevada. See pages 241-254 of the transcript, in which eleven methods of ascertaining longitude and three for ascertaining latitude are outlined. Because the recommendations of this report are not based upon a determination of the accuracy of any particular survey, the conclusion is reached, in order to save the time of those studying this report, not to set forth herein in detail any of these methods of surveying.

any change in her eastern boundary.[6]

The earliest boundary surveys were incomplete. One of the first was in 1855 when George Goddard surveyed the boundary with reference to the Carson Valley area only. Goddard's instructions from the Surveyor General of California, dated August 3, 1855, stated:

> At or near Carson Valley you will determine, astronomically, with some precision, the position of the *eastern boundary of the State*; and I would suggest that such portion of the *State line* as shall fall *in Carson Valley*, or so much of it as you may deem necessary be measured and defined with tolerable accuracy. * * *

Exhibit 64 at 264. Goddard found the intersection of the 120th meridian and the 39th parallel in Lake Bigler and deduced the position where the boundary would fall in Carson Valley.

In 1860, Congress passed an act authorizing a commissioner to act in conjunction with someone appointed by California to mark the eastern boundary line between California and the territories of the United States. The United States appointed Sylvester Mowry. Assisting Mowry in this survey was Lieut. Joseph C. Ives.[7] George Goddard indicated in a letter (Exhibit 78) that Lieut. Ives had adopted his (Goddard's) longitude at Lake Bigler for Ives' observatory. The point at the Colorado River had been located, and there is evi-

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6 See Exhibit 69 at 101 (entitled POLITICAL HISTORY OF NEVADA) for the three enlargements of its territory, only the last of which was along the California border. The map on page 21 shows the extent of these three enlargements amounting to approximately 48,875 square miles.

7 Joseph C. Ives was a first lieutenant in the Corps of Topographical Engineers. He was dismissed December 26, 1861 because of his inclination to the Confederacy and later became a colonel in its army. Exhibit PPPP at 13 n.31.

dence that Lieut. Ives may have done enough field work at Lake Bigler that the oblique boundary line could have been run. However, the remainder of the survey was canceled, so the oblique line was never marked in the field.

The next real attempt at a full-fledged boundary survey occurred in 1863 when Nevada and California conducted a joint survey, each appointing their own commissioners. California's Surveyor-General was J.F. Houghton, and the Territory of Nevada appointed Deputy Surveyor-General Butler Ives, who was no relation to Lieut. Joseph C. Ives. Houghton engaged the services of John Kidder, a respected engineer and surveyor, who in 1862 had worked with Butler Ives at the expense and direction of the territory of Nevada running a boundary survey for a short distance south of Lake Tahoe through an important mining district to determine whether the town of Aurora was in California or Nevada. This survey found that Aurora was in the territory of Nevada.

The California statute authorizing this joint survey provided that the points established by Lieut. Joseph C. Ives at the intersections in Lake Tahoe and the Colorado River were to be used. Exhibits 71/YY. According to a report by Houghton, Lieut. Ives' longitude and latitude at his observatory at the south end of Lake Tahoe were used in the survey, and they were aware, from maps, of Lieut. Ives' marking three different points at the Colorado River (Exhibit BBB at 36-37).

The Houghton-Ives survey extended from the Oregon border to approximately 103 miles southeast of the intersection in Lake Tahoe.[8] It was not

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8 This survey also found Aurora to be in Nevada.

continued to the Colorado River. Therefore, approximately 302 miles of the oblique boundary were left unmarked and unsurveyed, and more importantly, since the survey never reached the Colorado River, no corrections back from that terminal point were ever made to insure the accuracy of the line. California adopted the Houghton-Ives line by statute on April 4, 1864. Nevada adopted the line as her western boundary by statute on February 7, 1865. The same day Nevada authorized a survey extending the line an additional 30 miles. On March 10, 1865 Nevada amended the previous act and authorized and appropriated money for a 70-mile continuation of the Houghton-Ives oblique line. This work was performed under the direction of James S. Lawson. Lawson had been in the Houghton-Ives party and was familiar with the previous work and monuments.[9] The

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[9] Butler Ives reported setting four stone monuments, one 17 miles north of Lake Bigler and three on the fifth mile southeast of the Lake Bigler intersection. See Exhibit CCC. The same exhibit indicates that five stone monuments were ordered to be set on the north-south line. California's opening brief at 39 alleges that none of the monuments by this survey have been recovered with respect to the north-south line. Nevada's answer brief at 101 alleges that the "Houghton-Ives Line can be relocated from existing survey field notes, maps and monument locations", which would seem to indicate that some monuments could be recovered on the line. Nevada further alleges at page 41 of their answer brief that Von Schmidt reset and redated five of the cut granite monuments set on the Houghton-Ives line. The Sinclair Report, Exhibits 64 and DDDD, does indicate at 277-78 that two of Von Schmidt's monuments which they recovered plainly showed that the year 1873 had been changed from 1863, and were monuments originally used by the Houghton-Ives survey. Your Special Master at an informal conference with counsel, as he believes, was shown at least one such monument. While the Sinclair report mentions the recovery of five monuments on the Von Schmidt line, it does not indicate that all five showed evidence of being original Houghton-Ives monuments which were changed by Von Schmidt. There was testimony by a witness for Nevada, Mr. Bruce Greenhalgh, that he had observed a monument dated

Lawson survey extended the Houghton-Ives line approximately 73 miles. Neither the Houghton-Ives survey nor the Lawson continuation was ever adopted by the General Land Office.

The next chronological survey of importance was Daniel G. Major's survey of the Oregon-California boundary in 1868. As a part of this survey, Major was to determine the intersection of the 42nd parallel of north latitude with the 120th meridian of longitude west from Greenwich. This survey had been authorized by the General Land Office. Major, however, did not attempt to mark the eastern boundary of California. In a report of the Commissioner of the General Land Office dated October 27, 1870, which was submitted to Congress, it was noted that the 120th meridian as marked by Major[10] and as marked in the Houghton-Ives survey did not coincide.

> The plat thus constructed (of which a copy is herewith transmitted) developes [*sic*] a considerable discrepancy in longitude between the monuments fixed by the two different surveyors for the northeastern corner of the State [California]. . . .
>
> Should the supposed discrepancy be fully tested and proved to exist, it will awaken the inquiry whether the matter is not of sufficient importance

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1873 which in his opinion had been changed from 1863. There are photographs of this monument in evidence as Exhibits RRR, RRR-1, RRR-2 and RRR-3. This monument would have been in a different location than the two expressly mentioned in the Sinclair Report as being changed by Von Schmidt. Your Special Master, for the reasons following in the report, has concluded that it is not necessary for him to resolve the conflict of how many monuments remain standing as originally placed on the Houghton-Ives line, and how many monuments were actually appropriated by Von Schmidt, as it does not in any way affect the outcome of this litigation.

10 Several photographs of Major's monument have been introduced into evidence by Nevada. See Exhibits A, B, and C, RRRR and SSSS.

> to demand a determination by competent officers of the Government, and, with the aid of the telegraph, of the point of intersection of the 120th degree of longitude with the line of the Central Pacific Railroad, and such a correction of the eastern boundary of this State [California] as that determination might show to be necessary.

Exhibit 98 at 465.

The location of the 120th meridian at the crossing of the Central Pacific Railroad was determined with the aid of the telegraph by George Davidson during the summer of 1872. Davidson was an assistant with the United States Coast Survey. The location of Davidson's station was at Verdi, Nevada. He spent about a month there making observations.[11] Davidson also did not attempt to mark the eastern boundary line of California.

The Commissioner of the General Land Office had reported in 1871 that the difference between the 120th meridian as marked by Major and as marked by Houghton-Ives was about two miles and thirty chains,[12] with Major's survey being the farthest west. The Commissioner recommended that money be appropriated for a survey of the entire eastern boundary of California. This was done by Congressional act of June 10, 1872. Al-

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11 After completing the work at Verdi, Davidson went to Summit, a station at an elevation of 7200 feet, on the line of the Central Pacific Railroad in the pass of the Sierra Nevada and at the head of Donner Lake. This was a much higher elevation than any at which Davidson had worked at previously. The purpose of going to Summit was to determine whether higher elevations were better than lower ones for astronomical observations. It is not clear from the record whether Davidson did any checking on the accuracy of his determination of the 120th meridian results as determined at the Verdi station. His results at Summit indicated that higher elevations were more favorable for observations.

12 A chain is 66 feet; a mile contains 80 chains. See Exhibit PPPP at 29, n.74.

lexey W. Von Schmidt received the contract to act as United States surveyor and astronomer.

Von Schmidt's special instructions, dated July 31, 1872, specifically stated:

> You are intstructed [*sic*] to proceed to the field and commence operations at the initial point, at the monument already established at the intersection of the one hundred Twentieth meridian West from Greenwich with the Forty Second parallel, by Daniel G. Major, Astronomer and Surveyor, Extract of description of which herewith marked "A".

Exhibits 133/VVV at 1-2. The special instructions further provided that:

> You will determine the point of the intersection of the Thirty-ninth parallel of north latitude with the one hundred Twentieth meridian west from Greenwich, this will be done in the most thorough and accurate manner, and I have to advise you that no observations for latitude or longitude will be considered satisfactory whose probable error is greater than three seconds of arc (3″).

Exhibits 133/VVV at 4.

Von Schmidt was aware of George Davidson's work with the telegraph and his establishment of the 120th meridian at Verdi.[13] Von Schmidt tele-

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13 Nevada's answer brief indicates at 37 that:

> In August of 1872, about the time Von Schmidt had taken to the field to begin his survey, Davidson was exchanging telegraphic signals with Throckmorton at Verdi for personal equations. Von Schmidt was present at the exchange of these telegraphic signals at Verdi and obtained from Davidson his observations of the location of the 120th meridian at the crossing of the Central Pacific Railroad.

No citation or other reference is given for the above statement. Your Special Master is not aware of any reference to the fact that Von Schmidt was present at the exchange of signals in the materials admitted into evidence. However, Von Schmidt telegraphed Drummond on August 13 of Davidson's work, which was done primarily in July. Davidson himself reported its completion on August 6. See Exhibits 116, 100. Thus, even if Von Schmidt was not present at the exchange of

graphed the Commissioner of the General Land Office on August 13, 1872 stating:

> Davidson of Coast Survey just established at Verdie [*sic*] on Railroad one hundred & twenty degrees longitude finds all former work wrong. I propose to start at his point run north to Oregon line on Randoll Marke coming down. Can I do it? like to have orders from Coast Survey to Davidson to give me his point.

Exhibit 131. This was followed the next day by a more explicit letter indicating that Davidson found all monuments previously set were 4000 feet too far west. Exhibit 132. The Commissioner responded by letter dated August 29, 1872, stating that Von Schmidt was not to rely on Davidson's work, but to make his own observations and that Major's Corner must be considered the starting point of Von Schmidt's survey (Exhibits 108/WWW-5). By this time, Von Schmidt had already concluded that the only reliable method of establishing the boundary line was by telegraphic communication. He had made his own observations at Verdi, exchanging time signals with Professor George Davidson who operated the astronomical station at San Francisco.[14]

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signals, he was in close contact with the personnel at the San Francisco station.

14 See Exhibits 105/XXX and ZZZ, which is Von Schmidt's report to Drummond. In this report, Von Schmidt states that he stayed one week at Verdi taking observations which he found agreed with those taken by Davidson. The briefs of California and Nevada do not discuss the fact that Von Schmidt allegedly took his own observations. However, Von Schmidt did adopt Davidson's work, stating in his report:

> Being convinced that the work of Professor Davidson in establishing this Longitude was correct, and having great confidence therein, I concluded to adopt his 120th Degree of Longtitude, more especially as the season was rapidly drawing to a close (it being then September) and the time for completing my work necessitating expedi-

Von Schmidt was running a flag line north from Crystal Peak toward the Oregon border when he received Commissioner Drummond's response. He dutifully stopped running his line, proceeded to Major's Corner, and after making some observations of Polaris, proceeded to run a boundary line south from Major's Corner, establishing monuments[15] at every mile in accord with his specific instructions. However, after he had covered 100 miles, he found that the line he had started running north from Crystal Peak did not connect with the one he was running south from Major's Corner. His report states: "[T]he line run from Major's Corner was three miles, twenty four chains and fifty one links west of the flag line run north from Crystal Peak . . . ." Exhibits 105/ZZZ at 5-6. Von Schmidt concluded that his flag line north from Crystal Peak was the correct 120th meridian because it was based on telegraphic signals which were not readily assessible to or used by Major. Von Schmidt reported that he:

> . . . concluded to return at once to the Oregon line, move the initial point of my survey, on the 120° of west Longitude as found by myself and re-run the line again from the north. As I have hereinbefore stated, the difference between the two lines, at a

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tion, as no work can be done in the mountains during the winter months.

I would here state that subsequent reductions of these observations of Prof. Davidson, have proved the accuracy thereof. (see copy of Letter and Telegram from J. E. Hilgard enclosed) herewith.

Id. at 16-17.

15 Photographs are in evidence showing three of Von Schmidt's monuments. They are: the monument at the intersection of the 120th meridian with the 42nd parallel of north latitude, Exhibits D, E, and F, a monument south of Carson City, presumably set at 221 miles and 76 chains from Oregon, Exhibits RRR, RRR-1, RRR-2 and RRR-3, and the iron monument north of Lake Tahoe, Exhibits CCCC and CCCC-1.

> point 100 miles south of the Oregon Boundary was 3 miles 24 chains and 51 links; making allowance for convergency of meridians, this would make the lines differ at the 42nd parallel 3 miles 18 chains and 73 links, I therefore ran a line due East from Major's Corner 3 miles 18 chains and 73 links, and there established a large stone monument . . . .
>
> . . . .
>
> No pains were spared to run this line correctly.

Exhibits 105/ZZZ at 6-8.

This was not the last of Von Schmidt's problems in running the boundary survey. Because of the time lost in running the flag line at two different locations, and retracing his steps, he was forced to abandon the survey for the winter before he had done any work at all on the oblique line. There was a heavy financial burden in running the line twice also. Von Schmidt requested payment immediately upon completing the north-south portion of the line stating: ". . . I assure you that I have expended about the whole amount of the contract price of this portion, leaving nothing for my services." Exhibit 107 at 5. Once he began work on the oblique line and reached the Colorado River, Von Schmidt found the river had shifted since Lieut. Ives had mapped the area and established points there in 1861. He was informed that the river had shifted twice in the past 12 years. He wrote Commissioner Drummond to inquire whether:

> . . . I shall recognize the intersection of the 35° of Latitude with the old channel of the River as it was established by Lt. Ives or the intersection of the 35° of Latitude with the present channel as I now find it.

Exhibit 144. Drummond's response was that Lieut. Ives' survey had never been recognized and

he was to use the present river channel. Exhibit 145. This posed somewhat of a problem, because Von Schmidt had run his random line from Lake Tahoe expecting to hit Lieut. Ives' point at the Colorado River. The letter from Drummond would have necessitated Von Schmidt's correcting his entire oblique line if the line were to be accurate. Von Schmidt's report on the oblique line indicates that he made corrections. "The Field Notes represent the true line which was corrected from the random line, consequently no astronomical work was done thereon." Exhibits 146/AAAA at 6.

The General Land Office approved Von Schmidt's survey of the 120th meridian on May 1, 1873, but with sharp criticism. See Exhibits 130/WWW-9. The record does not reflect any definitive approval of the oblique line from the General Land Office, although both states were required to cause public lines to be closed on the new line. *See, e.g.*, Exhibits 109, 111. When the survey was finished it was not adopted by statute by either of the states, although it was recognized by both because of instructions from the General Land Office. It was not until July 10, 1978, after the institution of this suit, that California by statute adopted that portion of the Von Schmidt survey from the 42nd to the 39th parallel.

During the early to mid 1880's the accuracy of the oblique boundary line as established by the Von Schmidt survey was questioned. By 1882 the United States Engineer Office had prepared a map using their own calculations and one of the men in charge had determined that there was a serious error in Von Schmidt's oblique boundary line. See Exhibit 152. As detailed more fully in Nevada's brief at 46-50, the United States Senate passed a

resolution directing an investigation of the oblique line. California went so far as to appropriate money for a survey of the oblique line which was performed by Grunsky and Minto in 1889-90. They located the terminal points of the oblique line at Lake Tahoe and the Colorado River. Owing to limited funding the Grunsky-Minto survey only ran approximately 17 miles south from Lake Tahoe, so their survey was of little real value in terms of defining the boundary. However, it did indicate that Von Schmidt's oblique boundary line was in error.

Congress appropriated the money for a new oblique line survey in 1892. See Exhibits 162/T. This was undertaken by the United States Coast and Geodetic Survey during the years 1893-99. The United States Coast and Geodetic Survey personnel who supervised this survey were George Davidson, C.H. Sinclair, and W.B. Fairfield. The report made of this survey by C.H. Sinclair indicates that Von Schmidt's monument at the north shore of Lake Tahoe was 1727 feet too far west. As an end result of the Coast and Geodetic Survey, Nevada gained about 321 square miles and California gained about 65 square miles, making a net gain for Nevada of approximately 256 square miles. Exhibits 64/DDDD at 314. It was also discovered that Von Schmidt did not correct the entire length of the oblique line back from the then current channel of the Colorado River. In a letter from C.H. Sinclair to the Superintendent of the Coast Survey, Sinclair states:

> We found that Von Schmidt—whose random had to be corrected 118 chains—put all of this in less than 100 miles.—that is, he did not go over all of his line and correct it but cut in sharply so as end his work less than 100 miles from the Colorado River. The

> consequence was that we crossed the Von Schmidt line twice, once at 55 miles from Lake Tahoe and again about 60 miles from the Colorado River. Had Von Schmidt corrected his line all the way to Lake Tahoe we would not have crossed it at all.

Exhibit 171 at 2.[16] The U.S. Coast and Geodetic Survey of the oblique line was adopted by statute in 1901 in California, (see Exhibit 177) and in 1903 by Nevada (see Exhibits 178/Z). Nevada's statute adopting the 1893-99 survey remained in effect until it was repealed on April 24, 1979. This was well after the initiation of this lawsuit.

B. Accuracy of the Surveys

In order to place the surveys in perspective, a few observations are needed. The only survey to run the entire length of the boundary was made by Von Schmidt in 1872. The only other survey of the entire line between the 42nd and 39th parallels of north latitude was by Houghton-Ives in 1863. The distance between these two lines is approximately one mile. See Exhibit 2. The distance between the corner set by Major, and that set by Von Schmidt, was approximately 3 miles, 18 chains and 73 links. With regard to the oblique line, the only complete survey ever made other than Von Schmidt's was the U.S. Coast and Geodetic Survey in 1893-99.

It is doubtful if any of these surveys are entirely accurate. There is evidence in the form of an 1884 letter (Exhibit 153), testimony by California's ex-

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16 See also Sinclair's Report, Exhibits 64 and DDDD, at 281-82, which contains similar statements, and Exhibits LLLL, LLLL-1 and MMMM which are maps showing the various oblique boundary lines. Sinclair's official report stated that Von Schmidt's correction was made in 130 miles, instead of less than 100 miles as his earlier letter states.

pert witness, Francois Uzes at Tr. 44, and a map depicting the various surveys and boundary lines in contention, Exhibit 4, which shows that Von Schmidt's meridian line and oblique line would not intersect at the 39th parallel of north latitude, but instead at a point west of the designated boundary intersection. Mr. Uzes also testified that Houghton-Ives oblique line would not be in alignment with the meridian line so as to make the correct intersection. It can further be seen from examining Exhibit 4 and the large aerial photo map taken from a U-2 plane which is Nevada's Exhibit 0000 that the Von Schmidt meridian line and the U.S. Coast and Geodetic Survey line will not intersect each other on the 39th parallel.

Von Schmidt's survey of the north-south line has an error in that the line is not straight but deflects somewhat to the west. His oblique line obviously was not straight because he did not correct back from the Colorado terminus the entire length of the line. The fact that the U.S. Coast and Geodetic Survey oblique line crosses Von Schmidt's line at two points is rather conclusive evidence on this point. It is your Special Master's opinion that these errors were not due to lack of skill on Von Schmidt's part, but more likely financial difficulties and hardship experienced in part because he had to duplicate considerable time and effort on both the oblique and north-south lines. In discussing Von Schmidt's oblique line, Francis S. Landrum, Nevada's expert witness at the hearing, made a worthwhile observation with regard to the fact Von Schmidt reported he had missed Lieut. J.C. Ives' point at the Colorado River by 20 chains, which is a quarter of a mile.

> I would say if a person ran an oblique geodetic line across the face of the earth, which is possibly the longest one in the world, is possibly the most difficult line that a surveyor could be called upon to run under any circumstances, over mountains, over deserts, in a period of about three and a half months, and missing a monument of Lieutenant Ives in the Colorado River by only 20 chains, when you compare against the Coast and Geodetic Survey which some twenty years later accomplished roughly the same feat with a far larger crew, and approximately six years, seven years existing from start to finish, with improved techniques, with telegraph available at both ends of the line, and missing 150 meters in their random line, which reduces to about 475 feet more or less, which reduces into chains in the vicinity of about 7-1/2 chains, or roughly their error was a third of what Von Schmidt's was, I would say that Von Schmidt's line would be an absolute acme of accuracy, his random line.

Tr. at 300.

Every surveyor probably did as well as could be expected with what he had to work with and the conditions at the time. The notes of these men are a reminder of the hardships endured. Davidson, who established the location of the 120th meridian and whose work was ultimately adopted by Von Schmidt, reported that while he was working at Verdi the temperature reached 127 degrees Fahrenheit during part of the time, and that the weather was extremely dry and hot. In Von Schmidt's report to Commissioner Drummond of his survey of the oblique line, he stated:

> The only method that I might have used for checks on my astronomical work, would have been observations of the moon culminating stars, but to do this with any degree of certainty would require at least 30 days observations at each station, and time being precious, I concluded to rely upon the

> observations taken:—When I call your attention to the fact that the southerly line runs through the worst Deserts, and over the most broken Ranges of mountains that exist west of the Rocky Mountains; that the heat, on the last 200 miles averaged in the shade from 8 A.M. to 5 P.M. 116°—and in the sun from 145° to 165°—also 90° to 100°, and even over, during the night—Water had to be packed on mules from 10 to 30 miles, Provisions for 15 men and Twenty animals also to be packed. (The heavy horse Team could be got no farther south than Grape Vine Springs) and the men and animals suffering from heat and bad water, (it is all more or less alkalied) will be the only excuse I can offer if there should seem to you to exist any laxity of astronomical work.

Exhibits 146/AAAA at 4-5.[17]

Given the nature of some of the country, it is also not unlikely that the surveyors felt that any deviation in their line would make little difference. For example, in Von Schmidt's report on the north-south line, he states:

> In conclusion I would state that the line, with but very few exceptions, runs over a most miserable and worthless tract of country, and any change made from the line run in 1863, will make but a very little difference to either the state of California or Nevada so far as Taxable property is concerned.

Exhibits 105/ZZZ at 14.

The 1893-99 Coast Survey was undoubtedly more accurate than Von Schmidt's not only because of the time taken to measure it, but the method. State boundaries are referenced to astronomic po-

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17 Drummond had earlier criticized Von Schmidt's report on the north-south line stating: "[A] total absence of astronomical observations characterizes your work." Exhibits 129 and WWW-7. Thus, Von Schmidt may have been concerned with receiving similar criticism with regard to his report on the oblique line.

sitions. See Exhibit 12 at 2. There is a difference between astronomic observations and geodetic computations. Exhibit 27 at 5-6 states:

> The question has often been asked whether a boundary defined by statute or treaty, as on a specified parallel of latitude or meridian of longitude, should be located by direct astronomic observations or from geodetic computations giving a mean position derived from a great number of observations. It has generally been agreed that an astronomic location is the proper one, but astronomic and geodetic positions may differ materially. For example the astronomic stations on the 49th parallel boundary east of the Rocky Mountains vary from 6 seconds north to 8 seconds south of the mean parallel of latitude—or a range of more than a quarter of a mile. It seems likely that for future surveys geodetic positions will be used wherever available.

The Coast survey not only determined the endpoints of the oblique line astronomically, but geodetically. As stated in Exhibit 240, the affidavit of Mr. Uzes, California's expert witness:

> The advantage of this operation is that geodetic calculations on the "mathematical earth" will provide a more accurate starting direction for the initial random line. Geodetic triangulation was also extended along the entire length of the boundary for determining positions of points on the line. (See Nev. Exhibit LLLL-1). The Coast and Geodetic oblique was first run as a straight line to the calculated geodetic position at the Colorado River. Upon reaching the river, the error of closure upon the intended terminus (centerline of river at 35° north latitude) was determined. The error was then proportionately distributed all the way back to Lake Tahoe, with new points marked on the ground. This resulted in a final "corrected line" located by offsets from the initial random line, all of which were located upon the geodetic datum.

Exhibit 240 at 7-8.

Recently the National Geodetic Survey conducted observations at three California-Nevada boundary monuments near Lake Tahoe to verify the reported position of the 120th meridian as established by the Sinclair Report (in evidence as Exhibits 64/DDDD) which detailed the 1893-99 survey. The results of the 1978 survey differed to some extent, and the 1978 report concluded:

> Differences between the 1893 and the 1978 observations could be caused by procedural changes. These would include the following: (1) astronomic positions observed in 1893 were not reduced to a mean pole, (2) the star catalogs used were in a slightly different coordinate system, and (3) observation methods, reduction procedures, and instrumentation techniques were different. A detailed analysis of these differences is not part of this study. We feel that agreement, commensurate with the known differences in techniques, has been obtained between the 1893 and the 1978 astronomic positions.

Exhibit 239 at 4.

V. THE EXISTING CALIFORNIA-NEVADA BOUNDARY LINE

The boundary line currently marked on the ground and used by both states as the 120th meridian between the 42nd and 39th parallels of latitude is the line run by Allexey Von Schmidt in 1872. This is the line that California, as the plaintiff, contends should be determined to be the lawful boundary between the states by virtue of prescription and acquiescence.

As mentioned earlier under Section IV entitled Surveys, subpart B entitled "Surveys of the California-Nevada Border", the Houghton-Ives line was adopted by statute in both states. The Von Schmidt line was never adopted by either state prior to this lawsuit. Thus, the Houghton-Ives line remained the only boundary adopted by statute by both states up until the time of this lawsuit although it was not used after the time of the Von Schmidt survey.[18]

Various Nevada state agencies have recognized, and use, the north-south portion of the Von Schmidt boundary line in their daily operation.

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18 The exact date of the transition over to the north-south Von Schmidt boundary line is not known. It was, in all likelihood, a gradual process of transition. See Exhibit 134, which is a letter from the General Land Office to the U. S. Surveyor General in Nevada, dated April 21, 1873, indicating that a new boundary line between the 42nd and 39th parallels of north latitude has been established which is farther east than the 1863 survey. The letter indicates a copy of the map and field notes "will be forwarded to you at an early day" and that the oblique line is yet to be run. In the meantime, the Surveyor General is directed to "refrain from letting contracts in the immediate vicinity of the boundary line until further advised." For the purposes of this lawsuit, the date of transition makes little difference since Nevada has admitted in the pleadings that both states have exercised jurisdiction up to the Von Schmidt line, as currently marked on the ground, since 1873.

Examples of such agencies, without being inclusive, are:

1. The Nevada State Patrol since its creation in 1949 (Defendant's Answer to Plaintiff's First Set of Interrogatories, hereinafter referred to as Filing 1A, No. 9);
2. Nevada Department of Highways since its creation in 1917 (Filing 1A, No. 12);
3. The Revenue Division of the Nevada Department of Taxation since the date the "Von Schmidt" line was surveyed (Filing 1A, No. 15);
4. The Nevada Department of Education since its creation in 1956 (Filing 1A, No. 21);
5. The Nevada Department of Forestry since its creation in 1952 (Filing 1A, No. 23); and
6. The Nevada Gaming Commission and State Gaming Control Board since the Board's creation in 1955 (Filing 1A, No. 27).

The boundary line currently marked on the ground and used by both states as the oblique boundary is the line run by the United States Coast and Geodetic Survey from 1893-99. This is the line that California, as the plaintiff, contends should be determined to be the lawful boundary between the states by virtue of prescription and acquiescence. This line was adopted by statute both by California (in 1901) and Nevada (in 1903). These statutes remained in effect until after the institution of this lawsuit when Nevada repealed her statute.

The various Nevada state agencies have recognized and use the current boundary in their daily

operation. Examples of such agencies, without being inclusive, are:

1. The Nevada Department of Taxation, Revenue Division, the Nevada Highway Patrol Division, the Nevada Department of Highways, the Nevada Department of Education, the Nevada Department of Forestry, the University of Nevada and the Nevada Gaming Commission and State Gaming Control Board since each agency's inception or the line's establishment, if such agency preceded the line (see Defendant's Response to Plaintiff's Second Request for Admissions, hereafter referred to as Filing 12, No. 63); and
2. The Nevada Department of Motor Vehicles, Nevada National Guard, Nevada Department of Resources and the Nevada-Tahoe Regional Planning Agency all rely upon the currently posted and marked boundary (Filing 12, No. 67).

Thus, the currently posted Von Schmidt north-south line has been in use by both states for over 100 years, and the oblique line marked by the U.S. Coast and Geodetic Survey has been used by each state for nearly 80 years.

VI. A NEW SURVEY

At issue in this case is whether the Court should order a resurvey and thus a relocation of both the 120th meridian west from Greenwich and of the oblique line.

It is the final alternative proposed by California in its amended complaint. It was also the proposal of Assemblyman Mike Cullen, who is now satisfied with California's presentation of the issue. It is also one of Nevada's proposals, to be exercised only if the Court cannot approve one of the well-known surveys.

It is clear from the record, and may be a fact of which judicial notice could be taken, that modern surveying methods have been greatly improved since the admission of California and Nevada to the Union, and since any of the surveys done in the 1800's. No one questions the capability of the early surveyors; they were without a doubt some of the most skilled in their profession. However, there is little doubt that the boundary line of the 120th meridian and the oblique line could be determined more accurately today.

The new methods involve laser beams and radio signals. Laser beams can be of help where mountainous terrain or forests present a problem for surveyors. The laser shoots a "pole" of light at least a mile high. The beam reflects off of dust particles and air molecules, and the reflection is spotted by a receiving instrument. This laser instrument can take a reading between two points with a mountain or forest range in between and reportedly be off line an average of only three inches.

The second method is called ARIES, and the letters stand for Astronomical Radio Interferometric Earth Surveying. It was developed by the California Institute of Technology's Jet Propulsion Laboratory in conjunction with the National Aeronautics and Space Administration (NASA). As explained in California's Opening Brief at 69-70:

> Very simply, this system which is a Very-Long-Baseline Interferometry (VLBI) technique operates by measuring from two or more stations relative arrival times of radio signals transmitted by quasars and radio galaxies billions of light years away. Because ARIES is a radio astronomic technique and does not depend upon gravity as an earth reference, it is capable of making extremely accurate geographic determinations free of the major sources of error caused by the gravitational force, the wobble of the earth's axis, and the inaccuracy of time signals typically associated with traditional optical methods. (C.C. Counselman, III, *Very-Long-Baseline Interferometry Techniques Applied to Problems of Geodesy, Geophysics, Planetary Science, Astronomy, and General Relativity*, Proceedings of the IEEE (September 1973) vol. 61, No. 9, p. 1225; Peter F. MacDoran, *Radio Interferometry for International Study of the Earthquake Mechanism*, Acta Astronautica (Pergamon Press 1974) vol. 1, pp. 1427-1444).

The question is not whether this boundary can today be measured more accurately than in the distant past, but whether if this Court ordered such a resurvey, it would be an open invitation to needless nationwide boundary litigation. Even more highly sophisticated methods may be developed in the future with greater accuracy than those now known. If absolute accuracy or even minute accuracy is the goal, we are in a never ending search. This Court has recognized and enforced on several occasions state boundaries

which had been adopted and used by the parties for several years even though they were not totally accurate. In *Virginia v. Tennessee*, 148 U.S. 503, 522 (1893), it was stated:

> Independently of any effect due to the compact as such, a boundary line between States or Provinces, as between private persons, which has been run out, located and marked upon the earth, and afterwards recognized and acquiesced in by the parties for a long course of years, is conclusive, even if it be ascertained that it varies somewhat from the courses given in the original grant; and the line so established takes effect, not as an alienation of territory, but as a definition of the true and ancient boundary. . . .

For further citations of authority on this point, see Nevada's brief at 105-06 which is part of its Argument III entitled "Accuracy in a Survey is not Essential to its Legal Adoption as a State Boundary."

I see no occasion for a modern survey under the facts here developed and recommend against such a course in this case.

PRESCRIPTION AND ACQUIESCENCE

The doctrine of prescription and acquiescence has long been recognized in this Court. The law of prescription was mentioned by name in the case of *Rhode Island v. Massachusetts*, 37 U.S. (12 Pet.) 657, 748 (1838).[19]

> When that is done, the court must decide according to the law of equity (1 Ves. sen. 446, 203), whether the agreement pleaded shall settle, or leave the boundary open to a settlement by our judgment, according to the law of nations, the charters from the crown under which both parties claim (as in 5 Wheat. 375); by the law of prescription, as claimed by the defendant, on the same principles which have been rules for the action of this court in the case. 1 Ves. sen. 453; 9 Pet. 760.

More recently in 1890 the word "acquiescence" was used and the doctrine of prescription and acquiescence applied in deciding the case of *Indiana v. Kentucky*, 136 U.S. 479 (1890):

> It was over seventy years after Indiana became a State before this suit was commenced, and during all this period she never asserted any claim by legal proceedings to the tract in question. She states in her bill that all the time since her admission Kentucky has claimed the Green River Island to be within her limits and has asserted and exercised jurisdiction over it, and thus excluded Indiana therefrom, in defiance of her authority and contrary to her rights. Why then did she delay to as-

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19 Further early history on boundary disputes prior to the Constitution and particularly under the court provided by the Articles of Confederation for the handling of such disputes is found in the appendix to 131 U.S. beginning at page (L). From *Rhode Island v. Massachusetts*, *supra* at 723, we learn:

> It is a part of the public history of the United States, of which we cannot be judicially ignorant, that at the adoption of constitution, there were existing controversies between eleven states respecting their boundaries, which arose under their respective charters, and had continued from the first settlement of the colonies.

sert by proper proceedings her claim to the premises? On the day she became a State her right to Green River Island, if she ever had any, was as perfect and complete as it ever could be. On that day, according to the allegations of her bill of complaint, Kentucky was claiming and exercising, and has done so ever since, the rights of sovereignty both as to soil and jurisdiction over the land. On that day, and for many years afterwards, as justly and forcibly observed by counsel, there were perhaps scores of living witnesses whose testimony would have settled, to the exclusion of a reasonable doubt, the pivotal fact upon which the rights of the two States now hinge and yet she waited for over seventy years before asserting any claim whatever to the island, and during all those years she never exercised or attempted to exercise a single right of sovereignty or ownership over its soil. It is not shown, as he adds, that an officer of hers executed any process, civil or criminal, within it, or that a citizen residing upon it was a voter at her polls, or a juror in her courts, or that a deed to any of its lands is to be found on her records, or that any taxes were collected from residents upon it for her revenues.

This long acquiescence in the exercise by Kentucky of dominion and jurisdiction over the island is more potential than the recollections of all the witnesses produced on either side. Such acquiescence in the assertion of authority by the State of Kentucky, such omission to take any steps to assert her present claim by the State of Indiana, can only be regarded as a recognition of the right of Kentucky too plain to be overcome, except by the clearest and most unquestioned proof. It is a principle of public law universally recognized, that long acquiescence in the possession of territory and in the exercise of dominion and sovereignty over it, is conclusive of the nation's title and rightful authority.

Id. at 509-10.

In *New Mexico v. Colorado*, 267 U.S. 30 (1925), the Court accepted and relied upon a stipulation making reference to acquiescence, quoting therefrom:

> [T]he said Darling line has been recognized and acquiesced in by the United States, by the Territory and State of Colorado, by the Territory of New Mexico and by the State of New Mexico except as otherwise indicated by the bringing of this suit, and has been and is now recognized and accepted by the Land Department of the United States, in its surveys of the public domain, as the boundary line between Colorado and New Mexico from the Macomb Monument westward, except so far as may otherwise appear (if it does otherwise appear) by the record in this case; that from 1868 to the present time the Territory and later the State of Colorado . . . has claimed and exercised dominion and sovereignty, and now claims the same, over the territory down to the boundary as established by said Darling and no farther; that county lines have been formed, towns and settlements have grown up, school districts, election districts, voting precincts, and land districts and water districts have been created with reference to said line; public officers have been elected, property has been assessed and taxes levied and collected under the authority of the Territory and State of Colorado, and its courts of both civil and criminal jurisdiction have exercised jurisdiction in all places north of said Darling line and the Territory and State of New Mexico has exercised like jurisdiction in all places south of said line; that government postoffice[s] have been established as being in Colorado when north of said line and as in New Mexico when south of said line, and that public land surveys on both sides of said line have been closed thereon, lands have been disposed of, rights acquired and political boundaries in both Colorado and New Mexico have been fixed by reference to said line.

Id. at 38-39.

Notwithstanding the use of another line between 1904-08, the United States and both states were held to have exclusively recognized the Darling line from 1868 to 1904 and after 1908.

More recently the doctrine of prescription and acquiescence was discussed in an opinion written by Mr. Justice Blackmun in the case of *Ohio v. Kentucky*, 410 U.S. 641 (1973), where he stated:

> **We need intimate no view on the merits of Ohio's historical analysis, for the State's long acquiescence in the location of its southern border at the northern edge of the Ohio River, and its persistent failure to assert a claim to the northern half of the river, convince us that it may not raise the middle-of-the-river issue at this very late date. . . .**
>
> *** * ***
>
> **Ohio does not say that its failure to assert its claim over the past century and a half is due to any excusable neglect. The implications of *Handly* and later decisions of this Court are too clear to support that claim. Ohio recognized this in its initial brief here. Nor, in the light of the longstanding and unequivocal claims of Kentucky over the river, and Ohio's failure to oppose those claims, may Ohio credibly suggest that it has not acquiesced. "The rule, long-settled and never doubted by this court, is that long acquiescence by one state in the possession of territory by another and in the exercise of sovereignty and dominion over it is conclusive of the latter's title and rightful authority." *Michigan v. Wisconsin*, 270 U.S. 295, 308 (1926). To like effect are *Vermont v. New Hampshire*, 289 U.S. 593, 613 (1933); *Maryland v. West Virginia*, 217 U.S. 1, 42-44 (1910); *Louisiana v. Mississippi*, 202 U.S. 1, 53-54 (1906); *Virginia v. Tennessee*, 148 U.S. 503, 523 (1893); *Indiana v. Kentucky*, 136 U.S., at 509-510, 518; *Rhode Island v. Massachusetts*, 4 How. 591, 639 (1846).**

***Id.* at 649, 50-51 (footnotes omitted).**

In 1940 Mr. Chief Justice Hughes in *Arkansas v. Tennessee*, 310 U.S. 563, 570 (1940), concluded the principle of acquiescence and prescription is "essential to the 'stability of order' as between the States of the Union." This statement cannot be repeated too often in these boundary dispute cases, even though another shooting war between these two states, such as occurred in 1863,[20] would not be predicted by your Special Master.

As can be seen from the facts presented earlier, Nevada has admitted that both states have exercised since 1873 and continue to exercise jurisdiction and sovereignty up to the Von Schmidt north-south line, and that it has not requested a resurvey of this line. By statute California adopted the U.S. Coast and Geodetic Survey's oblique line in 1901 and Nevada adopted it in 1903. The line has been in use ever since with both states exercising jurisdiction and sovereignty up to it. Thus the doctrine of prescription and acquiescence becomes applicable here.

Nevada argues that once the states established the boundary line by the Houghton-Ives joint survey, it could not be moved by any act of Congress authorizing a new survey, and that any new survey was unconstitutional and void. Nevada argues that any inaction on her part cannot condone the original unconstitutional act. In the alternative, Nevada argues that if the states themselves cannot establish the boundary by agreement, then the first survey authorized by the United States, that being the points marked by Lieut. J.C. Ives in 1861

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20 An allegation in Paragraph IV of the Amended Complaint of "border disputes that led to armed conflict" is admitted in Paragraph IV of the Answer. See also Exhibits 39, 53, 54, 55 and 58 for interesting details.

and Daniel Major in 1868, should constitute the boundary. This is a rather novel argument, and Nevada itself admits at page 89a of its answer brief that with regard to a state's inability to acquiesce in an unconstitutional act "Federal decisions directly applying this principle have not been found."

To establish either the Houghton-Ives line, which was never a complete survey and was used only for a period of approximately ten years, or to establish a boundary line extending from Major's Corner, which line has never even been run, would defy all principles of law and logic where individual property owners have relied upon the current line which has been in existence for so many decades. This Court has been quick to recognize that one of the reasons for applying the doctrine of prescription and acquiescence is to prevent the displacement of persons from their homes.

> There are also moral considerations which should prevent any disturbance of long recognized boundary lines; considerations springing from regard to the natural sentiments and affections which grow up for places on which persons have long resided; the attachments to country, to home and to family, on which is based all that is dearest and most valuable in life.

Virginia v. Tennessee, 148 U.S. 503, 524 (1893).

Furthermore, the act of the General Land Office in authorizing a survey of the 120th meridian by Von Schmidt was not for the purpose of moving or changing the boundary between the states. Indeed, the General Land Office did not officially recognize the Houghton-Ives survey. The General Land Office was attempting instead to establish the given boundary line and resolve what appeared to be an inherent conflict between the me-

ridian as found by Major and as found by Houghton-Ives. Thus, as previously stated, the new survey did not take effect "as an alienation of territory, but as a definition of the true and ancient boundary." *Virginia v. Tennessee, supra* at 522. The same is true with regard to the survey made by the United States Coast and Geodetic Survey—it did not amount to an alienation of territory, but an attempt to resolve disputes as to the true boundary.

It should again be noted (1) that California as its second affirmative defense urges in its reply in effect that the Von Schmidt line be determined as the boundary between the 39th and 42nd parallels and that the oblique line as marked by the U.S. Coast and Geodetic Survey be determined to be the boundary from the 39th parallel to the 35th parallel; (2) that Nevada, urges in paragraph 4 of its counterclaim:

> If the prayers set forth in 1-3 above not be granted, then that the line presently recognized on the ground as the boundary between the States of Nevada and California be adjudged the legal boundary between California and Nevada by acquiescence.

Both parties in these alternative positions are, in effect, recognizing the law of prescription and acquiescence.

Your Special Master believes that the doctrine of prescription and acquiescence should be applied in this case.[21]

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21 In *Rhode Island v. Massachusetts, supra*, at 734 this Court said:

> No court acts differently in deciding on boundary between states, than on lines between separate tracts of land; if there is uncertainty where the line is, if there is a confusion of boundaries by the nature of interlocking

grants, the obliteration of marks, the intermixing of possession under different proprietors, the effects of accident, fraud, or time, or other kindred causes, it is a case appropriate to equity. An issue at law is directed, a commission of boundary awarded; or, if the court are satisfied, without either, they decree what and where the boundary of a farm, a manor, province, or a state, is and shall be. When no other matter affects a boundary, a decree settles it as having been by original right, at the place decreed; in the same manner, as has been stated, where it is settled by treaty or compact; all dependent rights are settled, when boundary is. 1 Ves. sen. 448-50. If, heretofore, there was an issue in this case, on the locality of the point three miles south of the southernmost point of Charles river, we should be competent to decide it; and decree where the boundary between the states was, in 1629 and 1663, at the dates of their respective charter.

RECOMMENDATIONS

For the reasons given above your Special Master recommends:

1. That the boundary between the States of California and Nevada be determined and established to be the line known as the Von Schmidt line from its beginning at the intersection of the 42nd parallel of north latitude on the Oregon border and the 120th degree of longitude west from Greenwich, each as established by Allexey W. Von Schmidt in 1872 and extending south as marked and determined by Von Schmidt to the point in Lake Tahoe where such north and south line intersects the 39th parallel of north latitude, and continuing from such point on a straight line known as the United States Coast and Geodetic survey line as established by it from 1893-1899 running in a southeasterly direction to the point where the 35th parallel of north latitude intersects the Colorado River as determined by compacts between Arizona-Nevada and California-Arizona.

2. That the two states be given the right and opportunity to determine by agreement the point in Lake Tahoe where the north and south line ends and the oblique line begins and how it shall be marked, if at all, subject to approval of this Court, and in the absence of agreement that the Special Master, after hearings and testimony, make his recommendation as to the determination of said point and whether it shall begin exactly on the 120th meridian or exactly on the 39th parallel, or at a point approximately at such intersec-

tion, in order to do justice between the parties.

3. In event the parties are unable to agree upon the marking on the ground of either the Von Schmidt line or the U.S. Coast and Geodetic Survey line, that the Special Master be authorized to arrange for a survey as needed of any portions of either line, at the cost of the parties, each party on order of the Special Master contributing one-half of the estimated cost thereof, and report his recommendations to this Court.

4. That California's Motion to File a Second Amended Complaint and Bifurcate Issues with respect to ownership of disputed lands on the California-Nevada boundary be allowed.

5. That the Special Master be authorized to determine after conference with the parties and with a representative of the Office of the Solicitor General of the United States, whether the United States should be made a party to this case, and to hold hearings if such are deemed necessary as to the interest, if any, of the United States in any lands patented or granted to either the State of California or the State of Nevada along the boundaries herein determined, and to make such recommendations as are just and equitable under the prayer of each state for such other and further relief as the Court may deem proper, including recommendation as to the quieting of title to any lands, if needed.

6. In any further hearings relating to land ownership, or title thereto or to the quieting of title or in event of dispute between the two states or between either state, or both states, and the United States, as to location and ownership of land, that the California Land Title Association be permitted, to the extent the Special Master deems necessary, to file briefs *amicus curiae*.

7. That the Court reserve the final taxing of costs herein until its further order and after a further report as to such survey and the cost thereof from the Special Master.

Respectfully submitted,

ROBERT VAN PELT
Special Master

IX. APPENDICES

A. Summary of California Exhibits, and Other Evidence

1. Map, California Boundaries as Set Forth in the Constitution of 1849 (8 1/2" × 11").
2. Map, Lines at Issue in Vicinity of 42° North Latitude (8 1/2" × 11").

2A. Francois D. "Bud" Uzes qualifications as expert witness on surveying and boundary issues.

3. Map, Oblique Lines in Issue at Lake Tahoe (8 1/2" × 11").
4. Map, Alternative Constructions of Interstate Border in Lake Tahoe (30" × 44 1/2" approx., plus three color reductions 6 3/4" × 10").
5. CAL. CONST. of 1849, art. XII (1853 Cal. Comp. Laws at 58). Description of state boundary.
6. Act of Sept. 9, 1850, ch. 50, 9 Stat. 452. An Act for the Admission of the State of California into the Union.
7. CAL. CONST. of 1879, art. XXI § 1 (1880 Cal. Stats. at xlii). Description of state boundary.
8. CAL. CONST. of 1879, art. XXI, § 1 (as amended 1956). Description of state boundary.
9. CAL. CONST. of 1879, art. III, § 1 (as amended 1972). State boundary description.
10. Stipulation between California & Nevada, Dec. 16, 1978. Copies of 1956 and 1972 amendments to California constitution attached to Stipulation are true and accurate copies of the amendments.
11. Cal. Const. Revision Commission memorandum and study on revising Cal. Const. art. XXI relating to state boundaries, June 1966.
12. CAL. STATE LANDS COMMISSION, DISCUSSION OF THE CALIFORNIA-NEVADA STATE BOUNDARY (F. D. Uzes, Mar. 25, 1977). Discusses the determination of latitude and longitude, early surveys of both the meridian and oblique lines.

13. Act of Sept. 9, 1850, ch. 51, 9 Stat. 453. An Act to establish a Territorial Government for Utah.
14. Act of Mar. 2, 1861, ch. 83, 12 Stat. 209. An Act to organize the Territory of Nevada.
15. CONG. GLOBE, 37th Cong., 2d Sess. 1022, 1847, 2030, 2039, 2139, 3310, 3326, 3363, 3371 and app. 408 (1862). Bill extending the territorial limits of Nevada.
16. Act of July 14, 1862, ch. 173, 12 Stat. 575. An Act to extend the territorial Limits of the Territory of Nevada.
17. Nev. Const. Convention Debates and Proceedings, 466-67, 524-27, 538-41, 808-09 (July 19-21, 27 1864) [Official Report published 1866]. Relates to drafting of constitutional article on state boundaries.
18. NEV. CONST., art. XIV, § 1 (1864-65 Nev. Stats., ch. 35 at 60). State boundary description.
19. NEV. CONST., art. XIV, § 1 [no date supplied by California]. State boundary description.
20. 13 Stat. 749, Pres. Proc. No. 22 (1864). Nevada admitted to the Union.
21. Act of Mar. 16, 1864, ch. 36, 13 Stat. 30. An Act to enable the People of Nevada to form a Constitution and State Government, and for the Admission of such State into the Union on an Equal Footing with the original States.
22. Act of May 5, 1866, ch. 73, 14 Stat. 43. An Act concerning the Boundaries of the State of Nevada. This added one degree of longitude to the eastern boundary.
23. U.S. GEOLOGICAL SURVEY, DEP'T OF INTERIOR, BULL. NO. 12, BOUNDARIES OF THE UNITED STATES AND OF THE SEVERAL STATES AND TERRITORIES, WITH A HISTORICAL SKETCH OF THE TERRITORIAL CHANGES 125-29 (1885). The pages submitted detail boundaries of several western states including California and Nevada.
24. U.S. GEOLOGICAL SURVEY, DEP'T OF INTERIOR, BULL. NO. 171, BOUNDARIES OF THE UNITED STATES, AND TERRITORIES, WITH OUTLINE OF HISTORY OF IMPORTANT CHANGES 130, 132-37 (2d ed. 1900). Historical diagrams of several western states including Ne-

vada, and boundaries of said states including California.

25. U.S. GEOLOGICAL SURVEY, DEP'T OF INTERIOR, BULL. NO. 226, BOUNDARIES OF THE UNITED STATES AND OF THE SEVERAL STATES AND TERRITORIES WITH AN OUTLINE OF THE HISTORY OF ALL IMPORTANT CHANGES OF TERRITORY 135-39 (3d ed. 1904). Historical diagrams of several western states including Nevada, and boundaries of said states including California.

26. U.S. GEOLOGICAL SURVEY, DEP'T OF INTERIOR, BULL. NO. 689, BOUNDARIES, AREAS, GEOGRAPHIC CENTERS AND ALTITUDES OF THE UNITED STATES AND THE SEVERAL STATES 1-4, 202-25 (1923). Discussion of how boundaries are established and changed, describes historical boundaries of Nevada, California, and other western states.

27. U.S. GEOLOGICAL SURVEY, DEP'T OF INTERIOR, BULL. NO. 817, BOUNDARIES, AREAS, GEOGRAPHIC CENTERS AND ALTITUDES OF THE UNITED STATES AND THE SEVERAL STATES 1-14, 234-37, 242-44 (2d ed. 1930). Discussion of how boundaries are established and changed; describes boundaries of California and Nevada.

28. Letter from Nevada Territorial Governor Nye to Territorial Council, Oct. 25, 1861. Recommends appointing a commission to ask legislature of California to grant to Nevada that portion of her State lying east of the summit of the Sierra Nevada mountains.

29. J. Res. 2, 1st Sess., 1861 Nev. Terr. Laws 513-14. Resolution that board of two commissioners be elected to present reasons to California why boundary should be fixed at crest of Sierra Nevada mountains.

30. Second Annual Message of Gov. James W. Nye to the Legislature of Nevada Territory, 12-15 (typed), 32-35 (written copy), Nov. 13, 1862. Reports that California refused to cede territory west of Sierras, that the governor of California would recommend

joint survey. Nye recommends if cession not granted, to perform joint survey.

31. Con. Res. 6, 2d Sess., 1862 Nev. Terr. Laws 195. Resolution urging California Legislature to approve the western boundary of Nevada Territory as defined in the Organic Act and cede territory east of Sierras to Nevada.
32. First Annual Message of Nev. Gov. H. G. Blasdel, 1, 8, Dec. 14, 1864. Nevada's limits on the west are defined by the eastern boundary of California, unless through negotiations California will cede territory east of Sierras.
33. Reno Crescent, Apr. 6, 1872. Articles entitled "Our Northern Boundary", "Our Northern and Western Boundary", and "The Western Boundary of Nevada."
34. Nev. Assembly Bill 322, Mar. 10, 1951. An Act creating a joint interim legislative committee to investigate Nevada-California boundary problems, and to move the boundary to the summit of the Sierras.
35. Sacramento Bee, Feb. 12, 1959. Report that Nevada Assembly votes to demand 40,000 square miles of California returned.
36. L.A. Examiner, Feb. 19, 1959. Article entitled "Nevada Wants 'Peace'-of California."
37. Sacramento Bee, Feb. 19, 1959. Article entitled "Nevada Assembly Passes Bill to Push Line West, Sue California for Taxes."
38. THIS OFFER WAS WITHDRAWN. It was a letter from F. J. Hortig to Alan Cranston, and a letter from F. J. Hortig to Glenn M. Anderson. Concerns the description of the California-Nevada border.
39. Sacramento Bee, Mar. 1, 1959. Articles entitled "Nevada Claim to California Section Recalls Early Day Lassen Battle" and "Anderson Letter Review Land Row."
40. Santa Ana Register, Oct. 24, 1960. Article entitled, "Nevada Solon to Sue on Calif. Land."
41. THIS OFFER WAS WITHDRAWN. It was a memorandum from a Nevada Deputy Attorney General to

the Nevada Attorney General dated February 21, 1961. His opinion was that if Nevada undertook suit to regain land from east of Sierras, Nevada would lose.

42. Memorandum from Nevada Attorney General to Legislative Commission dated May 9, 1962. The memo legally concludes that Nevada would fail in an attempt to move their boundary west. One of the reasons is that "Nevada has long since acquiesced in the present location of the boundary."
43. CAL. S. JOUR., 12th Sess. at 630-31 (1861). Message from California Gov. Downey to California Senate concerning Nevada's quest for land east of the Sierras. His opinion California's boundary could only be changed by constitutional amendment.
44. Con. Res. 42, 13th Sess., 1862 Cal. Stats. 612. Nevada delegation to address California Senate and Assembly regarding establishment of boundary line.
45. [1856] CAL. SURV. GEN. ANN. REP. 22-25, 46-47, 112-15. Indicates uncertainty in locating county lines, necessity for defining eastern boundary of the state.
46. J. & Con. Res. 20, 1857 Cal. Stats. 377. Requesting Senators and Congressmen to procure from Congress a law providing for the survey of the eastern boundary of the state.
47. J. & Con. Res. 21, 1858 Cal. Stats. 356. Requesting senators and representatives be instructed to use influence to procure appointment of federal commissioner to act in conjunction with California commissioner to determine California-Utah boundary.
48. Con. Res. 12, 1859 Cal. Stats. 385. Exhibits 46 and 47 not having been acted on, request senators and representatives to communicate with the President regarding appointing of commissioners to determine boundary with Utah.
49. Con. Res. 1 & 2, 1860 Cal. Stats. — [page number not supplied by California]. California Congressional delegation requested to secure act for sur-

vey and establishment of eastern boundary within one year.

50. CAL. H. ASSEMBLY JOUR. 12th Sess. at 92, 98-99, 107, 904-05 (1861). Message from the Governor indicates that after Exhibit 48 was repealed, the United States appointed a Commissioner to survey the eastern boundary and they are now in the field. Requests the legislature to provide cooperation.

51. Con. Res. 4, 1861 Cal. Stats. 682. Joint committee to be appointed to take into consideration the report of the Surveyor-General on the eastern boundary.

52. [1862] CAL. SURV. GEN. ANN. REP. 22. If California were to adopt the Sierras as the boundary line, it could be established at less expense than the line as it now exists. It is up to the legislature to determine "whether the boundary suggested by the Act of Congress creating the Territory of Nevada shall be adopted, or whether it shall remain as was originally provided for this State." Concurs in Nevada governor's suggestion of joint commission to establish boundary between California-Nevada.

53. Sacramento Bee, Jan. 12, 1969. Article recounting 1864 boundary line war at Susanville.

54. Letter from Sheriff Naileigh of Roop County, Nevada to Orion Clemens, Secretary and Acting Governor of Nevada Territory, Feb. 18, 1863. Details the battle at Susanville and asks Clemens what to do.

55. Copy of proceedings of the Peace Meetings and Settlement at Susanville of the jurisdiction war, Feb. 16, 1863.

56. Letter from Orion Clemens, Acting Governor of Nevada Territory, to William Hill Naileigh, Sheriff of Roop County, Mar. 3, 1863. Clemens will try to get California to withdraw from east of the Sierras, but in the meantime the people should abide by the agreement made at the Peace Meeting, exhibit 55. Includes copies of telegraphs from Clemens to

Cal. Gov. Stanford Feb. 21, 1863; Stanford to Clemens, Feb. 27, 1863.

57. Letter from Orion Clemens, Acting Governor of Nevada Territory, to Leland Stanford, Governor of California, Mar. 5, 1863. Concerns the dispute at Susanville and suggests that "the matter of boundary may be speedily adjusted by the passage of an act recognizing the summit of the Sierra Nevada as the boundary line." If this is not feasible, Clemens suggests a joint survey.

58. Letter from Orion Clemens, Secretary and Acting Governor of the Territory of Nevada, to William H. Seward, Secretary of State, Mar. 18, 1863. Details the war at Susanville, previous maps and surveys, propositions resulting from a meeting with Gov. Stanford's agent including that there be a new survey. Clemens asks if the U.S. would reimburse Nevada Territory the cost of a survey run by Kidder and Ives.

59. Message of California Gov. Leland Stanford to Legislature of California, Mar. 30, 1863. Urges the legislature to settle the boundary line and includes report of Sheriff of Plumas County, Mar. 2, 1863; Report of Joint Committee at Susanville, Feb. 16, 1863; Letter of Governor Stanford to Judge Robinson, Mar. 4, 1863; Proposed Basis of Settlement From Gov. Clemens, Mar. 21, 1863; Report of Judge Robinson to Governor Stanford, Mar. 27, 1863.

60. Act of Apr. 18, 1859, ch. 291, 1859 Cal. Stats. 313. An Act to authorize the Governor of the State of California in conjunction with the United States, to run and mark the Boundary-Lines between the Territories of the United States and the State of California.

61. Act of Apr. 13, 1860, Ch. 222, 1860 Cal. Stats. 184. An Act to define and establish a portion of the Eastern Boundary of the State of California.

62. [1867-68] NEV. SURV. GEN. BIENNIAL REP. at 62. Indicates as soon as Nevada acquires all the territory she desires, she should have her boundaries sur-

veyed at the expense of the United States Government.

63. NOT RECEIVED IN EVIDENCE. The offered exhibit was a book—F. UZES, CHAINING THE LAND (1977).
64. [1900] U.S. COAST & GEODETIC SURV. REP. app. 3 at 255, 257, 259-330. C. SINCLAIR, OBLIQUE BOUNDARY LINE BETWEEN CALIFORNIA AND NEVADA. This report summarizes the various surveys of the oblique boundary line as well as detailing the U.S. Coast and Geodetic Survey's work on the oblique boundary line.
65. Notes of R. S. Williamson, Nov. 1, 1860. "Notes explanitory [sic] of the proper manner of conducting the survey of the Eastern boundary of California."
66. NOT RECEIVED IN EVIDENCE. Letter from W. Kingsbury to F. Weymouth, Dec. 22, 1933.
67. NOT RECEIVED IN EVIDENCE. Letter from A. Ireland to Thomas Kuchel, July 19, 1950.
68. NOT RECEIVED IN EVIDENCE. Letter from Wayne McLeod to Fred Ireland, July 19, 1950.
69. POLITICAL HISTORY OF NEVADA 1-105 (5th ed. 1965) (issued by J. Koontz, Sec. of State). Details historical and political data of the establishment of Nevada as a territory, and the boundary changes after Nevada became a state.
70. POLITICAL HISTORY OF NEVADA 22-105 (6th ed. 1974) (issued by W. Swackhamer, Sec. of State). Same as above.
71. Act of Apr. 27, 1863, ch. 402, 1863 Cal. Stats. 617. An Act to provide for Surveying and Establishing the Eastern Boundary of the State of California.
72. Act of Apr. 4, 1864, ch. 455, 1864 Cal. Stats. 506. An Act relating to the establishment of the Eastern Boundary of the State of California. Adopts the line as surveyed from Oregon to point near the White Mountains, south of Aurora as the legal boundary of California.
73. Act of Feb. 7, 1865, ch. 31, 1864-65 Nev. Stats. 133. An Act to provide for the Disincorporating of Cities and Towns incorporated under the Law of the Territory of Nevada.

74. Act of Mar. 10, 1865, ch. 121, 1864-65 Nev. Stats. 379. An Act to amend an act to authorize the survey and to establish the Western Boundary Line of the State of Nevada, approved Feb. 7, 1865. Survey to extend 70 instead of 30 miles, compensation rates changed.

75. 1943 Cal. Stats., ch. 134, art. 3 § 160 at 900. Adopts the north-south 1863 boundary and 1900 U.S.C&G.S. oblique boundary as legal boundary of state.

76. 1978 Cal. Stats., ch. 369 at 848-49. An Act amending Govt. Code § 160 (exhibit 75) and providing that the legal boundary is the line surveyed by Von Schmidt in 1872, from Oregon to 39th degree of latitude, and not the 1863 Houghton-Ives line.

77. Notes by James T. Gardner on the California Boundaries, Mar. 1872. Points out problems with the early surveys of the eastern boundary and northern boundary of California.

78. Letter from George H. Goddard to Prof. George Davidson, May 4, 1893. Goddard explains his survey of 1855 of Carson Valley. States that Lieut. Ives used his longitude, and that while Houghton thought he also used the same one, he used Goddard's camp, not astronomical station.

79. Notes by George H. Goddard on Errors contained in Sinclair's Report, (exhibit 64 herein) circa 1902.

80. Act of Mar. 26, 1861, ch. 94, 1861 Cal. Stats. 73. An Act to provide a Commissioner to co-operate with one appointed on behalf of the United States, to ascertain and mark a portion of the Eastern Boundary Line of this State.

81. Act of May 20, 1861, ch. 520, 1861 Cal. Stats. 587. An Act in relation to the Commission appointed on behalf of this State to run and mark the Eastern Boundary Line of the State of California.

82. Con. Res. 9, 12th Sess., 1861 Cal. Stats. 683. The two houses to elect a Commissioner to cooperate with the one provided by the U.S. to survey and mark the Eastern boundary line.

83. Sen. Misc. Doc. 18, 36th Cong., 1st Sess., (1860). Request from California that the United States survey and establish the eastern boundary.
84. Congressional Act of May 26, 1860, 12 Stat. 22. An Act to authorize the President of the United States in conjunction with the State of California, to run and mark the boundary lines between the Territories of the United States and the State of California.
85. CONG. GLOBE, 36th Cong., 1st Sess. 1620, 2046-47, 2302-03, 2357, 2375, 2408, app. at 475 (1860). Record of debates and proceedings on act in Exhibit 84.
86. Letter from J. Thompson, Secretary of General Land Office of Dept. of Interior, to Sylvester Mowry, Commissioner, Aug. 17, 1860. Instructions for surveying the Eastern boundary of California.
87. Letter from Caleb B. Smith, Sec. of the Dept. of Interior to Sylvester Mowry, Apr. 1, 1861. Mowry to discharge his employees and liabilities to best of ability; no further money will be advanced for the survey of the California boundary.
88. Telegraph (copy) from Caleb B. Smith to Sylvester Mowry. Mowry's services no longer required.
89. J. Thompson to J. G. Downey, Gov. of California, Aug. 17, 1860. Explains instructions given to Mowry and encloses a copy. It seems imperative to start at the Colorado River to insure the greatest accuracy.
90. Letter from L. Upson, U.S. Surv. Gen. of Cal., to F. F. Low, Gov. of Cal., June 3, 1864. Upson says he understands California and Nevada have authorized a survey of the boundary line and he requests a report so the government can adopt the work and be spared expense.
91. Letter from J. F. Houghton, Surv. Gen. of Cal., to W. L. Upson, U.S. Surv. Gen. of Cal., June 9, 1864. The survey has been suspended in an incomplete state and there is no appropriation for making copies of the maps or notes made to date.
92. Virginia City Territorial Enterprise, Mar. 18, 1871. Reports Nevada governor vetoed bill authorizing

survey of Cal.-Nev. border and appropriating money for survey.

93. S. J. Res. 37, 5th Sess., 1871 Nev. Stats. 187. Asks California to cede the territory east of the summit of Sierras to Nevada.

94. Act of Mar. 7, 1873, ch. 107, 1873 Nev. Stats. 180. An Act to provide for the removal of the county seat of Esmeralda County.

95. 14 Nev. Stats. 465 (1867). Congressional provision for survey of 42nd parallel not to exceed $13,847.00.

96. Contract and Bond between Joseph Wilson, Commissioner of General Land Office and Daniel G. Major for the survey of the Oregon-Idaho, Oregon-California Boundaries, Oct. 1, 1867.

97. Daniel Major's Astronomical Observations, Reductions and Field Notes of the Survey of the California and Oregon Boundary Line, June 16, 1870. Includes a cover letter from Major to Joseph Wilson, Commissioner, and a certificate of acceptance signed by Wilson, June 17, 1860.

98. REPORT OF THE SECRETARY OF THE INTERIOR, H.R. EXEC. DOC. NO. 1, Part 4, 41st Cong., 3d Sess. 465-66 (1870). Includes a report by the Commissioner of the General Land Office on the boundary lines of California, including the survey by Major.

99. [1869-1870] NEV. SURV. GEN. REP. at 16-17. Reports the boundaries of the state seem permanent; approximately 220 miles of the oblique line on the western boundary have not been surveyed.

100. REPORT OF THE SUPERINTENDENT OF THE U.S. COAST SURVEY FOR 1872, H.R. EXEC. DOC. NO. 240, 42d Cong. 3d Sess. 40-41, app. 9 at 173-76 (1875). Reports on George Davidson's observations at Summit station and Verdi, Nevada, and attaches his report on the country, climate, and observations.

101. REPORT OF THE COMMISSIONER OF GENERAL LAND OFFICE FOR 1871 (1872) at 21-22. Details the difficulties with the prior surveys of the eastern boundary of California and recommends an expenditure of $41,250 for a new survey.

102. Letter from Willis Drummond, to A. W. Von Schmidt, July 11, 1872. Enclosing contract, bond and other documents pertaining to his surveying the eastern boundary of California.

103. Letter from Willis Drummond to Allexey W. Von Schmidt, Aug. 2, 1872. Acknowledges return of contract, bond, and special instructions and sends certified copy of the same with extract from field notes made by Daniel G. Major.

104. Act of June 10, 1872, ch. 415, 17 Stat. 347. Appropriates $41,250 for a survey of the eastern boundary of California.

105. Letter from Allexey Von Schmidt to Willis Drummond, Feb. 27, 1873. Report of his survey of the eastern boundary of California.

106. Letter from A. W. Von Schmidt to Willis Drummond, Apr. 4, 1873. Letter in defense of his work on the survey of the eastern boundary of California.

107. Letter from A. W. Von Schmidt to Willis Drummond, Nov. 27, 1872. Explains difficulties incurred in surveying California's eastern boundary between the 42° and 39° north latitude, and requests payment for that part of the survey. Includes a rough map of this portion of the line.

108. Letter from Willis Drummond to A. W. Von Schmidt, Aug. 29, 1872. Von Schmidt instructed not to rely on the data of any other astronomer or surveyor except the establishment of the northeast corner of California by Daniel Major. Von Schmidt is to make his own observations and deductions.

109. Letter from S. S. Burdett, Commissioner of General Land Office, to Register of U.S. Land Office, Sacramento, Cal., Feb. 18, 1875. Register directed to suspend disposals of certain townships as a result of Von Schmidt survey.

110. Letter from S. S. Burdett to James T. Stratton, U. S. Surveyor General of California, Feb. 17, 1875. Stratton directed to furnish Surveyor General of

Nevada additional diagrams showing fractional areas of lots along line surveyed by Von Schmidt.

111. Letter from Willis Drummond to E. S. Davis, U.S. Surveyor General of Nevada, Feb. 14, 1874. Transmits field notes of Von Schmidt survey and instructed Davis to make changes on plats in accord with survey.

112. Letter from S. S. Burdett, to E. S. Davis, Feb. 17, 1875. Refers to exhibit 110 and requests Nevada to show the fractional areas of the lots belonging to the government along the boundary line.

113. Letter from James T. Stratton to Willis Drummond, Feb. 26, 1874. Acknowledges receipt of exhibit 110.

114. [1871-1872] NEV. SURV. GEN. REP. at 7-8. Reports an error was discovered in the oblique line, money has been appropriated for a new survey.

115. THIS EXHIBIT WITHDRAWN. Duplicate of Exhibit 130.

116. Letter from George Davidson to Prof. Benjamin Peirce, Aug. 6, 1872. Davidson says his field work of determination of the 120th meridian near Verdi, Nev. completed, requests that the office computations be completed as soon as possible.

117. Letter from George Davidson to Prof. Benjamin Peirce, Jan. 12, 1872. Acknowledging receipt of instructions for work at Verdi, Nevada.

118. Letter from George Davidson, to Prof. Benjamin Peirce, Jan. 3, 1872. Transmitting request that the Survey determine the 120th meridian which Davidson indicates he is prepared to undertake if Peirce desires.

119. Letter from Benjamin Peirce to George Davidson, Ass't. U.S. Coast Survey, Jan. 9, 1872. Davidson to determine the geographical position of Verdi. [This appears to be a draft of Exhibit 120].

120. Letter from Benjamin Peirce to George Davidson, Jan. 9, 1872. Similar to Exhibit 119.

121. Letter from Benjamin Peirce to George Davidson, Sept. 3, 1872. Approves communicating approxi-

mate results of work at 120th meridian to Von Schmidt.

122. Letter from Benjamin Peirce to George Davidson, Jan. 24, 1873. Peirce has requested that the General Land Office be supplied with the results of Davidson's observations near the 120th meridian at the earliest time.

123. Letter from Charles A. Schott, Asst. in Charge of the Computing Division, U.S. Coast and Geodetic Survey, to B. A. Colonna, Asst. in Charge Office & Topography, July 17, 1889. Reports that a comparison of data taken for the longitude at Verdi, Nevada in 1872 and 1889 show "extremely close accord."

124. Notes of longitude comparison at Verdi, Nevada, prepared by Charles A. Schott, July 17, 1889 referred to above in Exhibit 123.

125. Letter from J. D. Whitney, State Geologist of Cal., and Clarence King, U.S. Geologist, to Prof. B. Peirce, Dec. 2, 1871. Letter requesting a determination of the 120th meridian, and suggesting Verdi as the station.

126. San Francisco Daily Alta California, Aug. 10, 1872. Reports Davidson's observations indicate that boundary line between California and Nevada must be moved east; that determination of 120th meridian by late observations is fully two miles in error.

127. Letter from A. W. Von Schmidt to Willis Drummond, Dec. 19, 1872. Von Schmidt reports that he is having the necessary field notes and maps prepared relating to the survey between the 39th and 42nd degrees of north latitude.

128. Letter from Willis Drummond to A. W. Von Schmidt, Dec. 9, 1872. Indicates that there is no impediment to payment for each part of the boundary line separately and to transmit field notes, maps, and astronomical data relating to the portion from the 42nd to 39th parallel.

129. Letter from Willis Drummond to A. W. Von Schmidt, Mar. 22, 1873. Acknowledges receipt of

Von Schmidt's report, field notes, and maps for the boundary between the 39th and 42nd parallel, and criticizes his lack of astronomical observations.

130. Letter from Willis Drummond to A. W. Von Schmidt, May 1, 1873. This is a response to Exhibit 106, and criticizes lack of observations for correct determination of time.

131. Telegram from A. W. Von Schmidt to Willis Drummond, Aug. 13, 1872. Requests permission to start from Davidson's point at Verdi and run north to Oregon.

132. Letter from A. W. Von Schmidt to Willis Drummond, Aug. 14, 1872. Elaborates on Exhibit 131 pertaining to Davidson's establishment of the 120th meridian.

133. Original Contract, Bond and Special Instructions from Willis Drummond, Commissioner of General Land Office, to Allexey W. Von Schmidt, July 20 & 31, 1872. Instructions as to the surveying of the California-Nevada boundary.

134. Letter from Willis Drummond to E. S. Davis, U.S. Surveyor General of Nevada, Apr. 21, 1873. Reports that Von Schmidt's survey from the 39th to the 42nd parallel is farther east than the 1863 line and he is to refrain from letting contracts in the immediate vicinity of the boundary line until further advised.

135. Nevada State Journal, Apr. 12, 1874. Reports that Von Schmidt's survey has been accepted by the General Land Office and Nevada must acquiesce in the loss of property.

136. Nevada State Journal, May 16, 1874. Reports the Controller to the Assessor in four Nevada counties has received notice from the state controller to respect the Von Schmidt survey in making their assessments.

137. Act of Feb. 26, 1875, ch. 50, 1875 Nev. Stats. 102-03. An Act to better define and establish the boundary line between the County of Nye and the Counties of Churchill and Esmeralda.

138. [1873-1874] NEV. SURV. GEN. REP. at 7-9. Includes correspondence received by the U.S. Surveyor General of Nevada showing the General Land Office's acceptance of the Von Schmidt survey.

139. Nevada Map Atlas, Nevada State Highway Department (dates vary for individual quadrangle maps).

140. Act of Mar. 1, 1887, ch. 94, 1887 Nev. Stats. 95-96. An Act to authorize the purchase of maps of the State of Nevada for the use of the public schools therein, and making an appropriation to pay for the same.

141. Letter from Edwin A. Sherman to California Gov. Leland Stanford, Oct. 5, 1863. Reports unrest in area of Aurora with respect to the oblique boundary and requests him to set forth the opinions he entertains and the course he intends to pursue in regard to the jurisdiction of California.

142. [1867-1869] CAL. SURV. GEN. REP. at 12-13. Reports about 290 miles of the oblique boundary are yet to be run.

143. Telegram from A. W. Von Schmidt to Willis Drummond, Apr. 1, 1873. Will begin survey in 10 days.

144. Letter from A. W. Von Schmidt to Willis Drummond, Oct. 9, 1873. States that upon his arrival at the Colorado River he found the river had shifted since Lieut. Ives' 1863 sketch, and encloses Ives' sketch and his own sketch of the river. Inquires whether he should recognize the old river channel or the new one as the intersection.

145. Letter from Willis Drummond to A. W. Von Schmidt, Oct. 22, 1873. Von Schmidt instructed to consider the intersection of the 35th degree of north latitude with the middle of the channel of the Colorado River as he now finds it.

146. Letter from Allexey W. Von Schmidt to Willis Drummond, Jan. 10, 1874. Von Schmidt's report on the oblique line.

147. CAL. S. & ASSEMBLY JOUR., app. vol. VI, 20th Sess. Report and Supplemental Report of a Majority of Border County Delegations, on Joint Resolution of Legislature of Nevada, asking the Cession of Terri-

tory East of the summit of the Sierra Nevadas (1874). Recommends no action on Nevada's request.

148. Letter from A. W. Von Schmidt to Willis Drummond, Sept. 3, 1873. Reports he has just completed field work on the oblique line and requests an extension of six months time to prepare his maps, report and field notes in triplicate.

149. Letter from A. W. Von Schmidt to Willis Drummond, Nov. 6, 1873. Reports that the line surveyed and marked in the field runs to the middle of the channel as found by him 143 chains west of the monument established by Lieut. Ives.

150. Letter from Willis Drummond to A. W. Von Schmidt, Jan. 31, 1874. Von Schmidt's request for payment has been forwarded to the Treasury.

151. San Francisco Call, Supplement, May 1, 1884. Reports there has been discontent with Von Schmidt's oblique line, and that if any error exists it is in the running of the boundary lines, not the determination of the initial meridian.

152. Letter from M. M. Macomb, United States Engineer Office, to Wm. Ham. Hall, California State Engineer, Apr. 11, 1882. Indicates he has done topographical work on a map of Lake Tahoe and has no doubt that there is a serious error in the running of the oblique line, "although the 120th Meridian just north of the Lake and in the vicinity of Verdi, is as nearly correct as could be expected."

153. Letter from Wm. Ham. Hall to California Senator J. F. Miller, Apr. 30, 1884. Hall indicates there is no dispute as to the meridian line, but he discovered that the oblique line as marked on the ground does not intersect the point of crossing of the 120th meridian and 39th parallel latitude, but strikes parallel about a mile west from said point.

154. Letter from H. M. Teller, Secretary of the Interior, to President of the Senate Pro Tempore, Apr. 25, 1884, transmitting a report by N. C. McFarland, Commissioner of the General Land Office. McFar-

land says he has no knowledge of the existence of any alleged error with regard to the oblique boundary line, and the only further method of testing the correctness of the work would be by an examination in the field and new astronomical observations.

155. Assembly Con. Res. 9, ch. 9, 1884 Cal. Stats. 10. Because the oblique boundary line is not a straight line but a broken one and in some places monuments are more than a mile from the true boundary line, it is resolved that their senators and representatives be instructed and requested to procure action to secure the services of engineers to locate the true boundary line.

156. S. J. Res. 27, ch. 29, 1891 Cal. Stats. 536. A state survey shows the oblique line is wrong and California delegation in Congress requested to take such action as will secure the correct establishment of the line.

157. Act of Feb. 26, 1889, ch. 31, 1889 Cal. Stats. 38. An Act to provide for the correction and establishment of a portion of the eastern boundary line of the State of California, and to appropriate money therefor.

158. Letter from George Davidson, to California Gov. R. W. Waterman, Apr. 19, 1889. Davidson's reflections on Von Schmidt's boundary line and any new survey.

159. Letter from George Davidson to F. M. Thorn, Supt. of U.S.C. & G Survey, Mar. 27, 1889. Davidson's history of the boundary survey including how he showed Von Schmidt to make the computations for the oblique line.

160. Letter from George Davidson to F. M. Thorn, Supt. of U.S.C. & G Survey, Mar. 28, 1889. Davidson relays his conversation with A. W. Von Schmidt, who has told him that there is no possibility of such an error and that he is willing to make a resurvey at his own expense if any reliable authority can show him he committed an error.

161. [1888-1890] CAL. SURV. GEN. REP. 14-40. This is the report of surveyors Grunsky and Minto who were appointed by the California Surveyor General to see if there was any error in the position of the boundary at Lake Tahoe, and their conclusion that the boundary as marked is incorrect.

162. 27 Stat. 357 (1892)—appropriating $15,650 for furnishing points to state surveys and for surveying and designating with permanent monuments the oblique boundary between California and Nevada.

163. Assembly J. Res. 10, ch. 18, 1899 Cal. Stats. 490. Resolved that congressional delegation be requested to seek authorization to move old granite markers over to resurveyed line or if that is too expensive that the temporary posts set by the United States Coast and Geodetic Survey on the oblique line be recognized as the true boundary.

164. [1891-1892] NEV. SURV. GEN. REP. 8-9. Directs the Nevada legislature's attention to the appropriation of money by Congress for a survey of the oblique line.

165. [1899] U.S. COAST & GEODETIC SURVEY REP. 66, 779. Mentions Davidson has reported an apparent error in the determination of the eastern boundary line of California where it reaches Lake Tahoe at the north shore and leaves it at the southeast shore.

166. [1893] U.S. COAST & GEODETIC SURVEY REP. 66-67. Report on the progress of the resurvey of the oblique line.

167. [1895] U.S. COAST & GEODETIC SURVEY REP. 56-59. Report on the progress of the resurvey of the oblique line.

168. [1898-1899] U.S. COAST & GEODETIC SURVEY REP. 223-25. Says work for the season on the oblique line comprised 130 miles of triangulation and 400 miles of boundary line corrected.

169. Letter from George Davidson to Thomas C. Mendenhall, Supt. U.S.C. & G.S., July 24, 1889. Davidson reports he has been unofficially informed that some "curious errors have been discovered at the

turning of the boundary line on the shore of Lake Tahoe."

170. Letter from George Davidson to Thomas C. Mendenhall, Dec. 20, 1889. Davidson requests information about the oblique line and says he understands it is over 4,000 feet in error.

171. Letter from C. H. Sinclair, Asst of U.S.C. & G.S. to Henry S. Pritchett, Supt. U.S.C. & G.S., Feb. 16, 1899. Reports that Von Schmidt did not correct his line all the way back from the Colorado and that they crossed Von Schmidt's line twice.

172. Letter from George Davidson to Thomas C. Mendenhall, Nov. 17, 1890. Annual report for fiscal year ending June 30, 1890. Reports that an examination and observations authorized by California made by competent engineers indicates an error in the boundary line where it reaches Lake Tahoe at the north shore and leaves it at the southeast shore.

173. Letter from George Davidson to Thomas C. Mendenhall, Sept. 30, 1893. Annual Report for 1892-93. Details the beginning of the work of the Coast and Geodetic Survey on the oblique boundary.

174. Letter from C. H. Sinclair to T. C. Mendenhall, Aug. 28, 1893. Annual report for the year ending June 30, 1893. Details field work done on the oblique boundary line, beginning at the Colorado River.

175. [1894-1896] CAL. SURV. GEN. REP. 15-20. Details correspondence between U.S.C. & G.S. and California Governor's office regarding permanent marking of the boundary. The Coast Survey has one more season's work, and will probably go over the line for the last time in February 1897.

176. Letter from C. H. Sinclair to Henry S. Pritchett, Jan. 20, 1898. Report of field work connecting the longitude stations at Genoa, Carson City, Virginia City and Verdi with the primary triangulation.

177. 1901 Cal. Stats. 89. This adopts the line established and marked by the U.S. Coast and Geodetic

Survey as the true, correct and legal boundary line of the State of California.

178. 1903 Nev. Stats. 38. This adopts the line established and marked by the U.S. Coast and Geodetic Survey as the true, correct and legal boundary line of the State of Nevada.

179. 1960 Nev. Stats. 145-51. Ratification of the interstate compact between Nevada and Arizona, and text of compact.

180. Act of Aug. 11, 1966, Pub. L. No. 89-531, 80 Stat. 340. An Act to consent to the interstate compact defining the boundary between the States of Arizona and California, and setting forth the compact.

181. Act of June 16, 1961, Pub. L. No. 87-50, 75 Stat. 93. An Act Giving the consent of Congress to a compact between the State of Arizona and the State of Nevada establishing a boundary between those States.

182. 1959 Nev. Stats. 123-25. Nevada act creating the Colorado River boundary commission to confer and act with representatives of Arizona to determine the location of the common boundary and negotiate compact.

183. 1977 Nev. Rev. Stats. § 234.010-234.250. Chapter 234 relating to State and Local Government Boundaries.

184. U.S. DEP'T COMMERCE, ENVIRONMENTAL SCIENCE SERVICES ADMIN., COAST & GEODETIC SURVEY, BULL. NO. 27, SURVEY OF THE BOUNDARY BETWEEN ARIZONA AND CALIFORNIA 10-13 (1965).

185. Interstate Compact Defining the Boundary Between the States of Arizona and California.

186. Act of Sept. 28, 1850, ch. 53, 9 Stat. 513-515. Act adopting the meridian of the observatory at Washington for all astronomical purposes.

187. 1873-74 Rev. Stat. § 435. Same as the above session law.

188. CONG. GLOBE, [information for citation not supplied by California] 891-2, 1917 (1850). Relates to the passage of an act for an American meridian.

189. [1865] NEV. SURV. GEN. REP. 1, 14-15. Description of state's boundaries show that Washington and Greenwich meridians considered identical.

190. [1885-1886] NEV. SURV. GEN. REP. 1. Same as above.

191. J. KELLY, FIRST DIRECTORY OF NEVADA TERRITORY 2, 25-28, 45-46 (1862) including H. DEGROOT'S SKETCHES OF THE WASHOE SILVER MINES 1, 6, 16, 24 (1860) [1962 reprint of original]. This also indicates the American and Greenwich meridians corresponded, as well as giving detail about the territory and county boundaries.

192. Map of Nevada Territory, DeGroot 1863.

193. Map of Oregon and Upper California, based on Fremont surveys, drawn by Preuss 1848.

194. [1879-1880] NEV. SURV. GEN. REP. 3. Same information as 189.

195. [1883-1884] NEV. SURV. GEN. REP. 3-4. Same information as 189.

196. [1875-1876] NEV. SURV. GEN. REP. 3. Same information as 189.

197. [1877-1878] NEV. SURV. GEN. REP. 3-4. Same information as 189.

198. [1881-1882] NEV. SURV. GEN. REP. 3-4. Same information as 189.

199. Map of State of Nevada, Dept. of Interior, General Land Office, compiled by A.F. Dinsmore, 1886.

200. Culley, *Meridians of Washington*, 3 GEODETIC LETTER, U.S.C. & G.S. (No. 1) 56 (1936). Details the different meridian lines of Washington including the center of the dome of the old U.S. Naval Observatory, the White House, and the Capitol.

201. 37 Stat. 342 (1912). Act repealing the meridian of Washington.

202. Map of the eastern boundary of California as surveyed by A. W. Von Schmidt, drawn by Von Leicht & Hoffman, 1873.

203. Map of Nevada, Dept. of Interior, General Land Office, 1876.

Appendix

204. Post Route Map of California and Nevada, U.S. Post Office, 1917.
205. Map of Nevada compiled by J. Parker, U.S. Surveyor General's Office, Reno, Nevada, 1886.
206. Map of Oblique Boundary between California and Nevada, Treasury Dept., U.S. Coast & Geodetic Survey, C. H. Sinclair & Assistants, 1899.
207. Nevada Taxation Boundaries Map # 16, Washoe County 1969.
208. Nevada Taxation Boundaries Map # 70, Washoe County 1974.
209. Strip Map of California-Nevada Boundary, depicting lines in issue and federal grants of record.
210. Letter from R. P. Hammond, Jr., U.S. Surveyor General for California, to Commissioner of General Land Office, Jan. 20, 1887. Transmits a letter from the land agent of the Central Pacific R.R. Co. requesting a survey of the boundary line between California and Nevada in township 19 N. Range 18 E. Mount Diablo Meridian. Enclosure attached which indicates this township has not been resurveyed since 1863 line.
211. Letter from R. P. Hammond to Commissioner, General Land Office, Mar. 3, 1887. A notice has been posted inviting bids for resurvey of township mentioned in Exhibit 210.
212. Letter from R. P. Hammond, Jr. to Commissioner, General Land Office, Apr. 16, 1887. No bids on resurvey mentioned in Exhibits 210 & 211 were received.
213. Letter from Charles W. Irish, U.S. Surveyor General for Nevada, to S. M. Stockslager, Commissioner of General Land Office, Apr. 17, 1888. Irish states he has discovered several plats showing only the old boundary line and that property has been disposed of on land which now lies in California, and asks for suggestions or instructions.
214. Letter from Britton & Gray law firm to W. M. Stone, Acting Commissioner of the General Land Office, July 10, 1889. Lists the lands selected by California as indemnity school lands for those lost

in certain townships, states that the selection has been suspended because a new boundary line was to be run but has only connected with the lines of survey in part. Requests connection of lines of new boundary to determine whether California's claim valid.

215. Letter from R.P. Hammond, Jr., U.S. Surveyor General for California, to Commissioner of General Land Office, Feb. 17, 1890. Reporting present status of public surveys adjoining east boundary of California run by Von Schmidt, and an estimate of the cost of making proper connections with the boundary in townships.

216. Dept. of Interior decision in the case of Ernest M. Pellkofer, Case No. A-29832. Appeal from a decision which had found that the Bureau of Land Management did not have jurisdiction over land now in Nevada along the oblique line because it had passed to California under the school land grant. After historically detailing the surveys and boundary problems, the original decision is set aside and the case remanded.

217. Letter from J. A. Williamson, Commissioner of General Land Office, to E.S. Davis, U.S. Surveyor General of Nevada, Nov. 12, 1877. Davis instructed to prepare an amended plat of the area along the new oblique boundary line as found by Von Schmidt.

218. Letter from J. A. Williamson to Register of U.S. Land Office, Carson City, Nev. Nov. 12, 1877. To suspend all disposals of land in certain section along oblique boundary and report a list of the lands which have been disposed of in said sections.

219. Letter from J. A. Williamson to Register of U.S. Land Office, Carson City, Nev., Jan. 24, 1878. Acknowledgement of Register's response to Exhibit 218.

220. Letter from W. M. Stone, Asst. Commissioner of General Land Office, to R. P. Hammond, Jr., Dec. 17, 1889. Encloses exhibit 214, and requests Ham-

mond to report the number of townships in California through which the Von Schmidt boundary was extended, and the townships where public surveys were not connected.

221. Letter from Edward A. Borriss, Assistant Commissioner of General Land Office, to U.S. Surveyor General, Reno, Nev., Dec. 14, 1894. Refers to closings and plats along the "new" boundary line.

222. Letter from W. M. Stone to R. P. Hammond, Jr., Mar. 1, 1890. Stone indicates he has received the report requested in Exhibit 220 and that it is not contemplated at present to make all of the requisite connections but those only of surveyed and approved townships.

223. Letter from W. W. Curtis, Acting Commissioner of the General Land Office, to Register and Receiver, Sacramento, Cal., Sept. 1, 1875. Directing suspension of disposal of all lands in certain townships.

224. Letter from J. A. Williamson to H. G. Rollins, U.S. Surveyor General of California, Apr. 4, 1877. Rollins instructed to furnish the Surveyor General for Nevada plats of Townships 21 and 24, and the Surveyor General of Nevada has been instructed to send Rollins information on the disposal of lands in Nevada.

225. Letter from J. A. Williamson to J. W. Ames, U.S. Surveyor General, California, Nov. 12, 1877. Ames inquires whether a plat of Township 20 was furnished to the Nevada Surveyor General.

226. Letter from J. A. Williamson to Register, U.S. Land Office, Susanville, Cal., Nov. 12, 1877. If plat of Township 20 has been received, Register not to dispose of any of said lands until further order and until official information received as to whether any of these lands were disposed of by Nevada.

227. Letter from J. A. Williamson to E. S. Davis, Apr. 4, 1877. Williamson states that California Surveyor General's office to furnish Davis with plats of Townships 21 and 24 and Davis is to prepare amended plats showing tracts disposed of lying west of the new state boundary.

228. Letter from J. A. Williamson to Register & Receiver, Susanville, Cal., Jan. 16, 1878. Encloses map showing tracts disposed of by Nevada in Township 20 which lie between the old and new state lines.

229. Letter from S. S. Burdett to Register of U.S. Land Office, Carson City, Nev., Feb. 18, 1875. Directs Register to suspend disposition of lands in certain listed sections. Corresponds to Exhibit 109 which was directed to the Register of the U.S. Land Office at Sacramento.

230. Letter from W. W. Curtis to Register & Receiver, Carson City, Nev., Aug. 31, 1875. Directing suspension of disposal of all lands in certain townships and that a list of all lands previously disposed of be prepared. Corresponds to Exhibit 223 sent to Sacramento Register.

231. Letter from J. A. Williamson to E. S. Davis, Nov. 12, 1877. Corresponds to Exhibit 225 of same date. Directs Davis to prepare amended plat when receives information from California, designating by lot fractions not disposed of.

232. [1909-1910] NEV. SURV. GEN. REP. 27. Reports that almost all lands given to the state by the general government have been sold, but there are about 2000 acres which were patented to Nevada and now lie in California for which they will still receive applications for sale.

233. Letter from Francis D. Eickbush, Acting Chief, Branch of Cadastral Survey, Bureau of Land Management, to State Lands Division, Sacramento, California, Nov. 13, 1978. Eickbush asks the land status of a certain school section.

234. Letter from F. D. Uzes to Francis D. Eickbush, Nov. 21, 1978. Response to Exhibit 233. The section was located in California under the Von Schmidt survey, and in Nevada after the Coast & Geodetic Survey. It remains identified on their records as a fractional section of California school land.

Appendix

235. [1919] DEPT. OF INTERIOR REP. vol. I at 247. Comments from the annual reports of the surveyors general of Arizona, California, Nevada.
236. Map of School and Selection Lands of California-Nevada, North Shore of Lake Tahoe. This consists of one large color map, and a smaller 8 1/2" × 11" black & white duplication.
237. Map of School and Selection Lands of California-Nevada, South Shore of Lake Tahoe. This consists of one large color map, and a smaller 8 1/2" × 11" duplication.
238. Affidavit of Fred Sledd, Jan. 10, 1979. On the north-south boundary between an imaginary line drawn from Major's Corner and Von Schmidt's line, California acquired 34,040 acres from the general government, and Nevada acquired 3,433 acres. On the oblique line, between the easternmost portions of the Von Schmidt line and the Coast and Geodetic line and an imaginary line projected from Major's Corner, Nevada acquired 5,022 acres and California 13,894 acres all as depicted in Exhibit 209.
239. NOAA Technical Memorandum NOS NGS 18, Determination of Astronomic Positions for California-Nevada Boundary Monuments Near Lake Tahoe, Mar. 1979. Report on 1978 determination of astronomic position of three boundary monuments.
240. Affidavit of F. D. Uzes, May 3, 1979. This is in response and rebuttal to Mr. Landrum's statement (Nevada Exhibit LLLLL), concerning Exhibit 239.

The following answers to interrogatories were introduced by California from Defendant's Answer to First Set of Interrogatories, Filing # 1A, and received into evidence: 4, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 43, 47, 48, 49, 50, 51-53.

The following answers to interrogatories were introduced by California from Defendant's answer to Plaintiff's Second Set of Interrogatories, Filing # 8, and received into evidence: 4(a), 4(b), 4(c), 7, 8, 10, 14, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 42-46 (the court reporter's notes show 43-46, the clerk's notes show 42-48, and my notes show 42-46 which I have used in preparing this list, although it makes no difference in the ultimate findings), 49-51, 52, 53-64.

Also offered and received into evidence were California's entire Second Request for Admission, Filing # 9B, and Nevada's Answer thereto, Filing # 12.

B. Summary Of Nevada Exhibits, and Other Evidence

A. Large color photograph of Major's monument.

B. Small color photograph of Major's monument showing the top stone with inscription "Nevada."

C. Small color photograph of Major's monument showing close-up the top stone with the inscription "Nevada."

D. Large color photograph of Von Schmidt monument.

E. Large color photograph of Von Schmidt monument.

F. Large color photograph of Von Schmidt monument stone inscribed:

1872

A. W. Von Schmidt

Lon. 120. Lat. 42

G. Cal. Const. Convention Debates, 466-67, memorial at XIV-XXIII (Sept.-Oct. 1849). Details history of California, the debate on the constitution. Indicates the present boundary was adopted as a compromise.

H. S. REP. NO. 123, 31st. Cong., 1st Sess. 1-26 (1850). Report by Senator Clay indicates that the committee favors admitting California with the present boundaries and if thereafter "it should be found conducive to their convenience and happiness to form a new State out of California, we have every reason to believe, from past experience, that the question of its admission will be fairly considered and justly decided." Also recommends establishment of territorial governments for the residue of the territory derived from Mexico. Included as a part of the report is the bill to admit California as a state in the union.

I. CONG. GLOBE, 31st Cong., 1st Sess. 891-92 (Pt. 1), 1916-17 (Pt. 2) (1850). Duplicate of California Exhibit 188.

J. H.R. REP. NO. 286, 31st Cong., 1st Sess. 1-70 (1850). Report on American Prime Meridian. This includes correspondence received by Lieut. Davis, Supt. of the American Nautical Almanac on whether an American prime meridian should be established.

K. Duplicate of California Exhibit 186.

L. Duplicate of California Exhibit 14.

M. Duplicate of California Exhibit 21.

N. Duplicate of California Exhibit 20.

O. Duplicate of California Exhibit 18.

P. Duplicate of California Exhibit 22.

Q. Synoptical Index, U.S. Law & Treaties, Mar. 4, 1789-Mar. 3, 1851 at 163. Index of laws relating to boundaries.

Appendix

R. Letter from Commissioner of General Land Office to Director, U.S. Geological Survey, Dec. 21, 1899. Lists the state and territorial boundary lines run under the auspices of the General Land Office. Relevant boundaries include: Major's 1873 survey of north boundary of Nevada on 42nd degree of north latitude, 1868-69 survey of north boundary of California at 42nd degree of north latitude, and the 1872-73 survey by Von Schmidt of California-Nevada boundary.

S. Included in California Exhibit 161.

T. Duplicate of California Exhibit 162.

U. Duplicate of California Exhibit 166.

V. Duplicate of California Exhibit 175.

W. Message of Nevada Gov. Reinhold Sadler to 1901 Legislature, 12th Sess., at 10-13. Includes a letter from Sadler to Supt. of U.S. Coast & Geodetic Survey indicating that the State of Nevada has never officially recognized the U.S. Coast & Geodetic Survey line.

X. Message of Nev. Gov. Reinhold Sadler to 1903 Legislature, 21st Sess. at 4-7. California has already adopted the oblique line run by the Coast Survey, and the question remains open whether the Nevada Legislature should adopt it.

Y. 30 Stat. 606 (1898). $10,000 appropriated for surveying and temporarily marking that portion of the eastern boundary of California known as the oblique line.

Z. Duplicate of California Exhibit 178.

AA. Duplicate of California Exhibit 232.

BB. Duplicate of California Exhibit 75.

CC. Included in Nevada Exhibit BB, and California Exhibit 75.

DD. CAL. CONST. OF 1879, art. III, § 2 (as amended 1972).

EE. Cal. Const. Revision Commission, art. XXI recommendations and provisions (1970) at 3, 37, 39-42. Details proposed changes in constitutional article relating to boundaries.

FF. Amendment to Cal. Govt. Code § 160, approved July 10, 1978. Provides that the boundary of the state shall be the line surveyed by Von Schmidt in 1872 between the 42nd and 39th parallels of latitude, and the line surveyed by the U.S. Coast & Geodetic Survey and completed in 1900 for the oblique boundary line.

GG. Duplicate of California Exhibit 181.

HH. Letter from J. D. Whitney, California State Geologist, to California Gov. F. F. Low, Nov. 25, 1867 at 1, 6-15. Report for the years 1866-67 states that there were no even approximately correct maps of any part of the state, so first had to work out geography, and then geology. Astronomical observations will have to be taken before they can prepare an even tolerable map of the state, "as there are errors and discrepancies in the work of the United States Land Office which can only be cleared up by a careful series of astronomical observations."

II. Letter from J. D. Whitney to California Gov. H. H. Haight, Nov. 15, 1869 at 1, 4-7. Report on the condition of the Geological Survey of California for the years 1868-69. Details maps and other publications ready for print.

JJ. Duplicate of California Exhibit 184 with the addition of p. iii (Forward) and 17.

KK. 20 Stat. 128 (1878). Provides for payment to the widow of Joseph C. Ives the $804 due him.

LL. 9th Census, Bureau of Census, Washoe County (1870). Lists each person, their occupation, place of birth.

MM. Act of June 8, 1868, ch. 55, 15 Stat. 67 (1868). Relates to selection of lands by California and Nevada.

NN. GENERAL LAND OFFICE, DEP'T OF INTERIOR, LAND SERVICE BULL. Vol. 12, No. 6 (Aug. 1, 1928). Contains survey notes on the oblique boundary. Authority was granted on July 24, 1928, for the closing of the public-land surveys on subsisting California-Nevada line as surveyed by the U.S. Coast & Geodetic Survey.

OO. Report of the Boundary Survey between California and Nevada by Butler Ives, 1863. Describes survey of the meridian line and the fact the survey of the oblique line was terminated about 102 miles and 46 chains due to weather stating: "This line cannot be considered absolutely correct, until it is continued to the Colorado River, and the error of intersection with the Initial Point there corrected back to Lake Bigler."

PP. Duplicate of California Exhibit 180.

QQ. Duplicate of California Exhibit 84.

RR. Duplicate of California Exhibit 86.

SS. Duplicate of California Exhibit 87.

TT. Duplicate of California Exhibit 88.

UU. E. BREWSTER, LIFE AND LETTERS OF JOSIAH DWIGHT WHITNEY (1909) at 202-205. Excerpt from a letter to William Dwight Whitney dated Sept. 6, 1861, indicates that he stopped at Lake Bigler to see Lieut. J. C. Ives who was determining the point of intersection of the 120th meridian with the 39th parallel.

VV. Letter from California Gov. Leland Stanford to Orion Clemens, Acting Governor Nevada Territory, Mar. 4, 1863. Letter introducing Judge Robinson as agent of California to confer on all matters relative to the boundary dispute arising out of the conflict at Honey Lake.

WW. Agreement resulting from the meeting of Judge Robert Robertson and Gov. Orion Clemens, Mar. 21, 1863.

1. Each governor to appoint a commissioner to run and permanently establish boundary lines.
2. For purpose of keeping peace, the boundary line running north from Lake Bigler shall be considered as temporarily established according to DeGroot's map and crossing the east end of Honey Lake.
3. Recommend to legislature of state and territory that rights acquired by parties along boundary line be enforced.
4. Gov. Clemens agrees to the foregoing conditions on the condition that the Gov. of California will recognize the line as run by John F. Kidder southeast from Lake Bigler as the temporary boundary until a permanent one established.

XX. Duplicate of California Exhibit 59.

YY. Duplicate of California Exhibit 71.

ZZ. Appointment and Contract of Butler Ives as Commissioner on behalf of Nevada by Orion Clemens, May 16, 1863. He is to act in conjunction with the surveyor general of California and be paid $3,000 in gold and silver coin.

AAA. Letter from Butler Ives to his brother, June 16, 1863. Indicates he had earlier offered to run the line between the states for $22,000 and has now been appointed commissioner by Nevada for the sum of $3,000.

AAA-1. Typed transcript of Nevada Exhibit AAA.

BBB. [1863] CAL. SURV. GEN. ANN. REP. 35-74. This is a report of the progress made in surveying the boundary line. It closely corresponds to the report made by Nevada Commissioner Butler Ives, which is Exhibit OO.

CCC. [1864] CAL. SURV. GEN. ANN. REP. 18-22. Indicates that by act of April 4, 1864 the survey of the eastern boundary of the state was discontinued. Includes description of the permanent monuments placed on the boundary line so far as marked.

DDD. Orion Clemens Report on the Boundary Line, addressed to the Speaker of the House of Representatives, Jan. 14, 1864. Report on the conference with Judge Robert Robinson and the fact he appointed Butler Ives to serve as Nevada's commissioner in the joint survey even though there was no law authorizing such survey or funds. Indicates that the survey was partially completed and shows the true location of the boundary line in the Honey Lake region.

EEE. Duplicate of California Exhibit 72.

FFF. Letter from L. Upson, U.S. Surveyor of California, to Nevada Territorial Governor James W. Nye, June 3, 1864. Indicates he has written California Gov. F. F. Low requesting a report of the joint survey between California and Nevada including a plat and field notes, and wants the same information from Nevada.

GGG. Act of Feb. 20, 1864, ch. 96, 1864 Nev. Terr. Stats. 139. An Act for the Relief of Butler Ives, Boundary Commissioner.

HHH. Duplicate of California Exhibit 73.

III. Certified copies of 57 state land patents issued by Nevada for territory between the Von Schmidt and Houghton-Ives line.

JJJ. 17 Stat. 10 (1871). Commissioner of the General Land Office is authorized to approve the survey of the eastern boundary of Nevada made by Isaac E. James.

KKK. H.R. EXEC. DOC. NO. 29, 42nd Cong., 3d Sess. (1872). Estimate of the appropriations necessary to supply deficiencies incurred in surveying for the years 1870, 1871, 1872, and 1873. Included is payment to Daniel Major for obliterating monuments on the eastern boundary of Nevada.

LLL. 17 Stat. 537 (1873). Appropriation of $200 for surveying the eastern boundary of Nevada.

MMM. H.R. EXEC. DOC. NO. [not supplied by Nevada], 42nd Cong., 2d Sess. (1871-72) at 51-55. Report of the Commissioner of General Land Office for 1871. This is a duplicate of California Exhibit 101, although a different reference source.

NNN. Duplicate of California Exhibit 96.

Appendix

OOO. Daniel Major's Astronomical Observations, Reductions and Field Notes of the Survey of the California and Oregon Boundary line, June 16, 1870. This is the complete text, pages 1-184; California Exhibit 97 contained excerpts of this document.

PPP. Letter from Willis Drummond to Daniel G. Major, Aug. 31, 1872. Drummond indicates that Major's application for surveying the eastern boundary of California and the northern boundary of Nevada have been received, and he is authorized to offer a contract for surveying the northern boundary of Nevada.

PPP-1. Special Instructions to Daniel G. Major for Survey of Northern Boundary of Nevada, Sept. 7, 1872.

PPP-2. Letter from Willis Drummond to Daniel G. Major, Sept. 12, 1872. Indicates Major's contract approved.

QQQ. H.R. EXEC. DOC. NO. 1, part 4, 41st Cong., 3d Sess. 33-34, 36 (1870). Details Major's work in establishing the boundary between California and Oregon. In the establishment of this boundary, five astronomical stations were determined, and a series of over 4,000 observations were made for the correct demarcation on the earth's surface of the 42nd parallel.

RRR. Photograph of Von Schmidt monument showing inscription "1873", taken by Mr. Bruce Greenhalgh.

RRR-1. Photograph of Von Schmidt monument similar to RRR.

RRR-2. Photograph of Von Schmidt monument similar to RRR.

RRR-3. Photograph of Von Schmidt monument similar to RRR.

SSS. NOT OFFERED IN EVIDENCE. The exhibit which was marked was a photograph.

TTT. H.R. EXEC. DOC., 42nd Cong., 2d Sess. (1871-72) at 48-51. Report of the Secretary of Interior. Indicates J. E. James contracted to survey the eastern boundary of Nevada. The initial point was fixed at the intersection of the 37th degree of longitude west from Washington with the center line of the Central Pacific Railroad.

UUU. 17 Stat. 350 (1872). Appropriation of $2,000 to enable the superintendent of the coast survey to make astronomical observations at one of the highest points on the line of the Pacific railroad.

VVV. Duplicate of California Exhibit 133.

WWW. A series of letters between A. W. Von Schmidt and Willis Drummond, with the exception of WWW-10 detailed below.

- WWW-1. Duplicate of California Exhibit 102.
- WWW-2. Duplicate of California Exhibit 103.
- WWW-3. Letter from Willis Drummond to A. W. Von Schmidt, Aug. 14, 1872. A personal determination of the longitude is required.
- WWW-4. Letter from Willis Drummond to A. W. Von Schmidt, Aug. 22, 1872. Von Schmidt will be loaned astronomical transit and zenith telescope as he requested from the War Dept.
- WWW-5. Duplicate of California Exhibit 108.
- WWW-6. Duplicate of California Exhibit 128.
- WWW-7. Duplicate of California Exhibit 129.

WWW-8. Letter from Willis Drummond to A. W. Von Schmidt Apr. 4, 1873. Refers Von Schmidt to his letter of March 22 for information in regard to the adjustment of his account.

WWW-9. Duplicate of California Exhibit 115.

WWW-10. Letter from W. W. Curtis, Acting Commissioner of General Land Office, to Senator A. A. Sargent, May 14, 1874. Von Schmidt has inquired as to whether he is entitled to any extra compensation for having run the first 100 miles of the eastern boundary of California twice, and marking and establishing the line each time by monuments. Curtis says that "the suggested extra compensation for service in fulfilling his contract, which was of no ordinary amount, has not, in the opinion of this office, any sound basis, under the terms of his contract."

XXX. Included in California Exhibit 105.

YYY. Nevada State Journal, Apr. 23, 1873. Reports the cast iron monument to designate the point where the states of California, Nevada and Oregon join was unloaded at the freight depot, and describes the monument in detail.

ZZZ. Duplicate of California Exhibit 105, including the pages offered by Nevada as XXX.

AAAA. Duplicate of California Exhibit 146, with additional page showing the back of envelope with handwritten computations on it.

BBBB. Letter from Willis Drummond to Senator A. A. Sargent, Apr. 15, 1874. Drummond's observations on Von Schmidt's desire to rerun the northern boundary of California, and the difference between the 120th meridian as found by Major and Von Schmidt. Indicates he does not understand the correspondence he has received which was written by Von Schmidt.

CCCC. Photograph of iron monument set by Von Schmidt north of Lake Tahoe.

CCCC-1. Photograph of iron monument in CCCC at a different angle.

DDDD. [1900] U.S. COAST & GEODETIC SURV. REP., app. 3 at 259-382. This is the complete appendix which is referred to as Sinclair's report. California Exhibit 64 contained relevant portions of this report.

EEEE, EEEE-1, 2, 4, 5, 6, 7, 8, 9, 13, 14 and 15. Listing by Nevada and clear listing by Secretary of Interior for townships 16, 17, 18, 19, 20 & 21, Range 18 East.

EEEE-3, 10, 11 and 12 were withdrawn as duplicates.

FFFF, FFFF-1, 2, 3, 4, and 5. Township plats for the above townships, records of Reno Bureau of Land Management Office.

GGGG. Map of the Boundary Line between Nevada Territory and California as surveyed in 1863. B. Ives, Commissioner for Nevada; Houghton, Surveyor General for California; Kidder, Engineer in Charge.

HHHH. Map of Boundary Line between Nevada, Oregon & Idaho surveyed and established by Daniel G. Major, 1873, and certified by Willis Drummond, Dec. 9, 1873.

Appendix

IIII. Diagram showing the discrepancy between the position of the 120th meridian west of Greenwich as determined by Daniel Major in August 1868 and California State line as surveyed in 1863 by Houghton-Ives, prepared by L. Boss, circa 1868.

JJJJ. Map of the Eastern Boundary of the State of California showing the 120th Degree of Longitude West of Greenwich lying between the 42nd and 39th Degrees of North Latitude as surveyed by Allexey Von Schmidt under contract dated July 20, 1872 with Willis Drummond. Certified by Drummond.

KKKK. Two maps which comprise all of the oblique line boundary between California and Nevada from the intersection of the 120th degree of longitude West of Greenwich with the 39th degree north latitude to the intersection of the 35th degree north latitude with the center of the channel of the Colorado River as surveyed by Von Schmidt. Each are certified by Drummond as conforming with his field notes.

LLLL. U.S. Coast and Geodetic Survey map of Oblique boundary between California and Nevada, 1893-99.

LLLL-1. Map of the Oblique Boundary Between California and Nevada showing arrangement of Topographic Sheets, the Random Line, Von Schmidt Line, Scheme of Triangulation and Profile based on 1893-99 U.S.C. & G.S.

MMMM. Two diagrams showing (1) points of the oblique boundary between California and Nevada established by Von Schmidt near intersection of 35° latitude with the Colorado River and located by the Coast and Geodetic Survey; and points of Oblique Boundary line established and located by the Coast and Geodetic Survey; and (2) Points of Oblique Boundary line between California and Nevada, near Lake Tahoe, established by Von Schmidt and located by the Coast and Geodetic Survey, and Points of Oblique Boundary line established and located by the Coast and Geodetic Survey.

NNNN. Quadrangle map of U.S. Geographical Survey, issued June 30, 1882, resulting from expeditions of 1877 and 1878.

OOOO. Photograph taken from U-2 plane of Lake Tahoe area on which the approximate lines of Major, Houghton-Ives, Von Schmidt and the 1893-99 U.S. Coast and Geodetic Survey have been placed.

PPPP. Landrum, *A Major Monument: Oregon-California Boundary*, 72 ORE. HISTORICAL QUARTERLY 5-53 (1971). Indicates that the Houghton-Ives survey was the first to attempt to locate precisely the northeast corner of California. Indicates that Major probably surveyed more miles of state boundaries than any other one man, and lists the various boundaries he surveyed. Ultimately concludes that: "The present appraisal of Major's line, a century later, shows that he ran a mediocre to average survey, considering the conditions under which he worked, and further considering that his line was 'open-end'—that is, it did not return upon itself to suppy a means of checking. However, others have done much better."

QQQQ. NOT OFFERED IN EVIDENCE. A diagram prepared by and under the direction of Francis Landrum.

RRRR. Photograph of Major's monument taken by Francis Landrum 7-26-69 showing sandstone block marked "Nevada."

SSSS. Photograph of Major's Monument taken by Landrum.

TTTT. California State Geological Survey Topographical Map of Central California together with a Part of Nevada, J. D. Whitney, Geologist, C. F. Hoffmann, Topographer, 1873. Reduced photocopy of left half of map.

UUUU. Same as TTTT, Sheets II, III, IV covering bottom half and upper right corner of map.

VVVV. Britton § Rey's Map of State of California compiled from the U. S. Land & Coast Surveys, the several Military, Scientific & Rail Road Explorations, the state County Boundary Surveys made under the Order of the Surveyor General of California, & from Private Surveys, George H. Goddard, 1857.

WWWW. Map by Dept. of Interior, U.S. Geological Survey, Edition of July 1895, Surveyed in 1889, from 120°30′ to 120°00′ and 39°, designated "California Truckee Sheet."

XXXX. Same as Exhibit WWWW except edition of November 1891.

YYYY. Map of State of California, Dept. of the Interior, General Land Office, 1879.

ZZZZ. Map of the Public Surveys in the State of Nevada, U.S. Surveyor General's Office, Virginia City, Nevada, Sept. 22, 1871.

AAAAA. Map of the Public Surveys in Nevada, U.S. Surveyor General's Office, Virginia City Nevada, June 30, 1870.

BBBBB. National Map of the Territory of the United States from the Mississippi River to the Pacific Ocean, Office of the Indian Bureau, 1867.

CCCCC. Essayons Topographical Map of California, Nevada, Oregon, and part of Idaho, prepared from Field Surveys and other Reliable Data Under the direction of Bvt. Lt. Col. R. S. Williamson, Corps of Engineers, 1867.

DDDDD. Map of the State of Nevada, compiled under the direction of J. D. Whitney for U. S. Engineer Dept., 1867.

EEEEE. Map of the State of Nevada, Warren Holt, publisher, 1866.

FFFFF. Map of Nevada, U. S. Engineer's Office, San Francisco, California, circa 1865.

GGGGG. DeGroot's Map of Nevada Territory, Exhibiting a Portion of Southern Oregon and Eastern California, Warren Holt, publisher, 1863.

HHHHH, HHHHH-1 through 68. Copies of 69 land patents issued by Nevada along the oblique boundary.

IIIII. Schedule identifying the patents in HHHHH by date, number of acres patented, name of patentee, legal description, etc.

JJJJJ. S. EXEC. DOC. [no number supplied by Nevada], 37th Cong., 2d Sess. 490-91, 493-94 (1861-62). Indicates in report by Secretary of Interior on the eastern boundary of California that $55,000 was appropriated for a survey, $37,551.19 was squandered and additional liabilities of $4,416.21 were incurred and that the survey was temporarily suspended. This is the survey which had been undertaken by Mowry.

KKKKK. H.R. EXEC. DOC. [no further number supplied by Nevada] 39th Cong., 1st Sess. 13-15 (1865-66). Indicates contracts awarded for surveys in California and Nevada, that California has refused to cede any territory to the State of Nevada, and no further steps have been taken in the survey of the eastern boundary of California.

LLLLL. Sworn statement of Francis S. Landrum, Mar. 29, 1979. Remarks concerning the substance of the 1978 National Geodetic Survey report on boundary monuments near Lake Tahoe.

MMMMM. Nevada Assembly Bill 627, 1979 Nev. stats. ch. 214—An Act repealing NEV. REV. STAT. § 234.010 relating to the state's boundaries.

Nevada also offered in evidence, from Defendant's Answer to Plaintiff's Second Set of Interrogatories, Filing # 8, the answer to question 4(d) which was received.